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The Information Superhighway and Communities of Color

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Introduction

by James Jennings

This issue of the *Trotter Review* focuses on one of the most important set of challenges facing the Black community in the U.S., and that is, how to access, and manage, and control, significant facets and processes associated with the information superhighway. This current issue identifies the nature of the challenges, but also proposes some strategies that the Black community and its leadership might consider to ensure both access and control over information technology.

While an increasing number of reports and surveys indicate that our society is rapidly becoming a "have and have-not" one, in terms of access to the information superhighway, the potential difficulties are actually even more problematic for the Black and Latino communities. The issue of "have and have-not" involves much more than mere access to this new form of technology. It also includes issues related to the management and control of resources of the information superhighway. Thus, while increasing number of Blacks are beginning to enjoy some limited access to the Internet via email and subscriptions to online services, like America On-Line, very few people of color are actually in positions supporting the management, or control of this industry. Increasing access, furthermore, is not synonymous with enhancing capacities and effectiveness of community organizations to respond to a range of social, educational, and economic problems. This issue represents a collection of essays that respond to the call, not only for greater access to the information superhighway, but also focuses on related issues of management and control.

As director of The Trotter Institute, I am both proud and honored that President Nelson Mandela has agreed to begin this issue with his own thoughts and concerns about this new challenge. As his essay indicates, this challenge is a worldwide one. Access, management, and control over facets of the information superhighway can facilitate communication and collaboration between Blacks in the U.S., and the African diaspora. The next several articles describe some of the problems facing Black and Latino communities regarding this topic. The articles by Mhlaba, Scott, and Wilhelm identify areas that must be considered by those interested in enhancing access to the information superhighway.

The next set of essays by Jennings, Roberts, Jackman and Payne, Wilhelms, McDowell and Castano, and Alkalimat offer concrete proposals and suggestions for responding to some of the problems identified earlier. While many of these proposals are specific to certain community organizations, collectively, the articles begin to suggest elements for policies and actions that should be considered.

Finally, the Commentaries section includes a brief statement by Congressman Bobby Rush about national politics related to race and the information superhighway.

This section also includes an interview with E. David Ellington. Mr. Ellington is the president and co-founder of NetNoir, Inc., a Black-owned software company in California. This interview provides some insight about related issues considered important by Mr. Ellington, and how he approaches questions related to increasing access for the Black community, but also moving beyond access, to management and control possibilities.

I would like to take this opportunity to thank Ms. Kimberly Moffitt, our publications manager, for all her efforts in making this issue possible. Ms. Moffitt is responsible, not only for producing this issue, but also working directly with me in designing the issue, and assisting contributors in developing their ideas and essays. As Associate Editor, Dr. Harold Horton also played a critical role in producing this issue. Dr. Stephanie Athey of Stetson University provided assistance with the conceptualization of this issue, as well as with editing. The Trotter Institute relies heavily upon the contributions of its staff, and faculty and research associates to publish the *Trotter Review*; my thanks and appreciation to all of these individuals.

James Jennings, Ph.D. is director of The Trotter Institute and professor of political science at UMass Boston. He is the author of a number of books, including *Blacks, Latinos, and Asians in Urban America* and *Understanding the Nature of Poverty in Urban America*.

Remarks Made at the TELECOM 95 Conference, 3 October 1995

by President Nelson Mandela of the Republic of South Africa

Dr. Pekka Tarjanne, Secretary-General of the ITU, Your Excellency, President Kaspar Villiger of the Swiss Federation, Honorable Ministers, Members of the Diplomatic Corps, Distinguished Guests, Ladies and Gentlemen: South Africa is deeply honoured by the invitation to take part in this opening ceremony of TELECOM 95, the 7th World Telecommunications Conference and Exhibition.

Your seventh forum is the very first in which South Africa is participating as a full member of the International Telecommunication Union. This is testament to the steadfast support which our struggle for freedom received from the ITU. On behalf of the people of South Africa, we thank you for your solidarity, and express our joy at being so warmly accepted as a full and equal partner in the all-important work of telecommunications.

We would also like to express our gratitude at being given this unique opportunity to present our views at TELECOM 95. The keen appreciation we feel is heightened by the fact this is a special moment in the world's potential for transition to a truly democratic information age.

The ITU is a body of crucial importance for South Africa and indeed the entire African continent. We need a vast expansion of our communication and information network. The ITU, as the principal driving force behind international policy, technological development, cooperation, and skills transfer is an indispensable agent in this regard.

It therefore gives me great pleasure to announce that, following discussions between officials of the ITU and the South African government, we have formally invited the Union to hold its next Africa region TELECOM Exhibition and Forum in 1998 in South Africa. We would be happy and proud to host this prestigious event, and look forward to further close cooperation with the Secretary-General and the TELECOM Secretariat to make it a memorable occasion for the benefit of the Union and its members.

Ladies and gentlemen, the value of information and communication is felt with particular force when, as happened in South Africa for so many years, their denial is made an instrument of repression. Such measures, however, ultimately evoke inventive and innovative ways of circumventing the restrictions. For example, as prisoners on Robben Island, when we were deprived of newspapers we searched the refuse bins for the discarded sheets of newspapers which wardens had used to wrap their sandwiches. We communicated with prisoners in other sections by gathering matchboxes thrown away by wardens, concealing messages in false bottoms in the boxes and leaving them for other prisoners to find. We communicated with the outside world by smuggling messages in the clothing of released prisoners. Not even the most repressive regime can stop human beings from finding the ways of communicating and obtaining access to information.

This applies in equal measure to the information revolution sweeping the globe. No one can roll it back. It has the potential to open communications across all geographical and cultural divides. Nevertheless, one gulf will not be easily bridged—that is the division between the information rich and the information poor. Justice and equity demand that we find ways of overcoming it. If more than half the world is denied access to the means of communication, the people of developing countries will not be fully part of the modern world. For in the 21st century, the capacity to communicate will almost certainly be a key human right. Eliminating the distinction between information rich and information poor countries is also critical to eliminating economic and other inequalities between North and South, and to improving the quality of life of all humanity.

Converging developments in the fields of information and communications offer immense potential to make real progress in this direction. The pace at which the price of communications and information systems has fallen has also undermined the previously rigid link between a nation's wealth and its information richness. There is an unprecedented window of opportunity. But the present reality is that the technology gap between the developed and developing nations is actually widening. Most of the

world has no experience of what readily accessible communications can do for society and economy. Given the fundamental impact of telecommunications on society and the immense historical imbalances, telecommunications issues must become part of general public debate on development policies. Telecommunications cannot be simply treated as one commercial sector of the economy, to be left to the forces of the free market.

Ladies and gentlemen, in South Africa, with its own severe historical imbalances between developed and disadvantaged areas, we face many of these challenging issues within our own borders. For that reason we have much to learn from the rest of the developing world. But we do also believe that the lessons of our own experience may be of value to others, and in that spirit we would like to share some of them with you. First of all, we believe that the concept of universal service should be extended to the international plane. The obligation on governments to bring services to the rural and poorer areas of their countries should, with the globalisation of telecommunications, apply to the world at large. Developed nations should understand the necessity and the democratic right of the poorer countries to gain access to the information superhighway. And just as every nation needs cooperation between its various sectors to find the country's best way of accessing and utilizing the information highways, so too is increased international cooperation necessary. Amongst other things this should give high priority to overcoming the legacy of colonial development which left many countries linked to their neighbours via Europe rather than directly across their borders. A new programme of building high capacity links between neighbouring countries is urgently needed.

Not even the most repressive regime can stop human beings from finding the ways of communicating and obtaining access to information.

At present only the best-resourced countries can keep up with new developments. A world-wide centre for monitoring change would allow all nations to do so. The scope of what is required is beyond that of existing organizations and this might well be a role for the ITU itself. If developing countries are to make effective use of the chance to join the superhighway, there is a need for a special effort to build the pool of human resources. A massive investment in education and skills transfer is essential if the South is to compete in the global communications marketplace. This too requires long term international cooperation. Many developing countries face difficulties in raising capital for their existing operators. There is consequently pressure on governments to throw open their doors to international competition. This calls for great care, to avoid jeopardizing local services unable to compete with powerful international operators. Perhaps the most creative solution is the establishment of partnerships of operators in developing countries with international companies and consortia. Such mutually beneficial arrangements would bring profitable investment to the Northern partner and strategic skills transfers and expansion of networks to the Southern partners. They will help move us all away from dependency and one-way relationships.

Another major problem faced by governments is how to create incentives for telecommunications operators to supply unprofitable services which the state is committed to supporting—for example to rural areas of poor urban areas. Certain international developments are creating new difficulties for many developing countries. In particular, while moves towards liberalization are reducing the cost of international calls, they also force national operators to reduce tariffs in order to compete, thereby diverting funds from their less economic areas. The effects on national services of international accounting rates ought, therefore, to be taken into account in the negotiation of these rates and the way that revenues are shared. Traditionally, revenue from international services has been shared in a way that brought a substantial transfer of funds to developing countries. African countries in the ITU have urged that this transfer should be maintained or even increased, given their higher costs.

Ladies and gentlemen, these are some of the issues regarding the globalisation of telecommunications and the information revolution which are of concern to South Africa and many developing countries. If we cannot ensure that this global revolution creates a world-wide information society in which everyone has a stake and can play a part, then it will not have been a revolution at all. As we head towards the 21st century, the development of a global information society based on justice, freedom and democracy must be one of our highest priorities.

To this end I would like to formally table for discussion at TELECOM 95 a set of principles designed to enable the full participation of both the developed countries and the developing countries in building a global information society:

1. We should strive towards global universal service in telephony and global universal access to the information superhighway;
2. The expansion of the global information infrastructure should be based on partnership and rules of fair competition and regulation, at both national and international level;
3. The information revolution should be geared towards enhancing global citizenship and global economic prosperity;
4. A diversity of paths towards the achievements of national information societies should be respected;
5. The evolution of policy for the development of an equitable global information society should be co-ordinated internationally to ensure the sharing of information and resources;
6. The education of young people with regards to the skills needed for living in an information society should be prioritized.

In conclusion I would wish to emphasize the importance of young people to the information revolution. Many of us here today spent much of our lives without access to telecommunications or information services, and many of us will not live to see the flowering of the information age. But our children will. They are our greatest asset. And it is our responsibility to give them the skills and insight to build the information societies of the future. The young people of the world must be empowered to participate in the building of the information age. They must become the citizens of global information society. And we must create the best conditions for their participation.

I thank you.

Who Determines What Our Children See, Read, Do, or Learn on the Internet?

by Sondlo Leonard Mhlaba

Monitoring the Internet

The issue of appropriate use of the Internet at home and in schools is being hotly debated right now in, and outside, the Internet. In March 1995 Marlene Goss wrote a letter to the discussion list of the Consortium for School Networking (CoSNdisc@list.cred.net) appealing to educational policymakers to focus on access and equity when dealing with Internet in schools, instead of focusing on restricting such access.[1] She found it remarkable how many hours were being spent "deciding student use when only 3% of the classroom teachers, professional adults, have use of the Internet."[2] Her point was not so much that students should have unlimited access, but that teachers and other educators should not be denied access under the guise of protecting children. Educators, she argued, "make intelligent decisions about what we expose our students to, daily."[3]

In response, this writer partially agrees with Goss, but worries that monitoring access to the Internet is the kind of challenge that is not familiar to parents and teachers. Most parents and teachers are accustomed to the challenges of monitoring what children watch on television. Monitoring computer use, however, is very different. Once a youngster is logged on the information superhighway, he or she has the capacity to roam the world. Unlike television where parents either know the schedule or can see what the youngster is watching, computers tend to be in places where a child can explore the world unobserved. To some extent this is not a big problem in schools because the computer room is usually supervised. Even with good supervision in schools however, there is the problem that the Internet traveler sits right in front of the tube, with the ability to obscure what he or she is reading, sending, or viewing.

Jack Crawford of the K12Net Council of Coordinators raised additional, vexing, constitutional and legal questions which attend control of Internet access:

> If a school takes an active role in attempting to control what students have access to on the Internet (via school-based equipment), and a student finds some "bad stuff" anyways, can the school be held liable for failing to "protect" the student? What if the school is an Internet provider equipped to provide access to kids from their home computers. Is the school liable for what the kids can get into while logged on at home?[4]

These are questions which parents, educators, courts, and government need to wrestle with, and resolve sooner than later. At this point no one is sure how to proceed. Recent court decisions concerning alleged misuses on the information superhighway have had the appearance of discouraging close supervision of bulletin boards at a time when parents and educators are looking for more supervision, not less. In *Cubby v. CompuServe*, 776F. Supp. 135 (S. D. N.Y. 1991), the court found in favor of CompuServe specifically because the company argued that it was merely a system operator and could not be expected to keep tabs on all communications on its bulletin board. In this case Cubby, Inc., as plaintiff, had accused CompuServe of defaming it through its bulletin board. More recently in May 1995, the New York Superior Court, Nassau County, appears to have continued the line of reasoning applied in *Cubby v. CompuServe* by ruling against Prodigy in *Stratton Oakmont v. Prodigy*, principally because Prodigy has promoted itself as a keen monitor of its bulletin boards. Stratton Oakmont, Inc., an investment firm, had brought suit against Prodigy essentially for imputing its integrity through a bulletin board that Prodigy owns.[5]

In Congress several pieces of legislation are in the works, which attempt to regulate the content of electronic communications. Among these is a version of Senator Exon's "Communications Decency Act of 1995," which is now part of S. 652, the "Telecommunications Competition and Deregulation Act of 1995." Several versions of Senator Exon's draft bill are now appearing in many state legislatures; and have the potential of being over-restrictive and probably unconstitutional. These attempts at regulation of electronic discourse attest to the difficulty of the task. If parents and educators can find the answers for our limited area of interest, perhaps the rest of society may benefit, in due course. But parents and educators cannot make a contribution until they get themselves as

informed as possible about the information revolution that is upon us and, in particular, their children. Below is a background summary on the Internet which may help us appreciate its power and the complexity of its control.

The Evolution of the Internet

The Internet evolved from the Advanced Research Project of the Department of Defense (DOD). DOD funded several universities and corporations to create a digital communication network (ARPANET) that was separate from the telephone system. The primary purpose of this ARPANET was to ensure that DOD communication links survived a nuclear attack or other violent eruptions that might result from an earthquake. ARPANET became operational in 1969 using four computers. By the 1970s, it had grown to over 100 computers. When DOD reduced its support for ARPANET in the 1980s, the National Science Foundation (NSF) stepped in and supported a restructured ARPANET which was not tied to defense and was available to universities without restriction. The new network was also made available to commercial concerns for a fee. This expanded system became the "backbone" of an entire collection of networks known as the Internet. The Internet has since become a global web linking over 100 countries and nearly 3 million computers.

What we now commonly call cyberspace is an agglomeration of networks, including commercial on-line services such as America On-Line and CompuServe, Computer Bulletin Boards (BBSs) large and small, and networks of networks such as the Internet. As the technology has advanced, it has become feasible to transmit data, voice and pictures across the planet at the blink of an eye. Under current rules, what you send or receive is up to you or any other person who can access your address. You can exchange essays on the origin of the universe or converse about the joys of birdwatching. But you can also send or receive something which is objectionable to the general public.

Although there are organizational structures and codes of conduct among user groups, more often than not, the system is seen by friend and foe alike as essentially ungoverned and, at worst, anarchic and fertile ground for criminal activity. The problem within this structure or structurelessness has been brought home to many recently by reports of actual as well as potential crimes. Below is a sample of such reports:

- A commercial access provider, Panix Public Access, had to shut down its system for three days when it discovered a "trojan horse" program in one of its computers in October 1993. By the time the foreign program was discovered, it was feared, it might have already allowed "a secret group of computer hackers to run wild through hundreds of government, university, and commercial computers, purloining information right and left and wrecking who knows what damage... "[6]
- The Department of Justice proposes to strengthen the Computer Fraud and Abuse Act of 1986 to enable it to crack down on such crimes as, "credit history report thefts, sales of stolen passwords and illegal use of telecommunications services."[7]
- CERT, the Carnegie Mellon University-based Computer Emergency Response Team, had received close to 1,500 calls for help in fighting computer crime in 1993. That figure represented a 75% increase in such calls in one year.[8]
- In Bucland Hills Mall in Manchester, CT an automatic teller machine was programmed by crooks to steal ATM card numbers for unauthorized entry into other people's cash accounts. Fifty thousand dollars was stolen before the crime ring was broken. Susan Trausch who reported on this crime called it a "classic white-collar crime. No dynamite, no guns, no masks, no cops."[9]
- Mr. Alden J. Baker, Jr., allegedly, enticed young boys to engage in sexual acts in his Medford home. It was also speculated that Mr. Baker photographed the young boys as they performed for his enjoyment, and transferred the images into a computer bulletin board for transmission, locally and internationally, to fee-paying subscribers.[10]

Efforts to Protect Our Children

We need to accept the fact that the Internet is here to stay and to understand its significance to 21st century civilization. Thus, we must ensure that our young people at home and in schools are exposed to this technology. "The risk of not acting," asserts Beth Gold-Bernstein, "is being left behind. How can we adequately prepare our students for their world, if we do not provide them with the primary interface to the Information Age?"[11]

Indeed, several schools and school systems around the country are joining the global information infrastructure (GII). In Lexington, Massachusetts, the school system is exploring a system-wide connection to the electronic highway and is already researching appropriate use policies (AUPs) for the Internet. The State of Iowa has probably the most sophisticated, statewide system in place today. Completed in 1993, the approximately 3,000-mile network carries voice, data, full-motion, two-way, interactive video, high definition television, high resolution graphics, and computer-aided design to some 125 locations in the state. The system is being used for "expanding the state's educational opportunities; sharing limited and/or costly resources; . . ; providing specialized classes to schools that could not afford them otherwise; connecting student teachers in the field with their professors, . ."[12]

Perhaps the most exciting development in the GII is the Bay Area Multimedia Technology Alliance (BAMTA), a newly formed public-private research alliance formed with help from a $5 million grant from the National Aeronautics and Space Administration (NASA). BAMTA will explore barriers to the distribution of multimedia over a network. Some of the technical barriers which they hope to overcome relate to "transmission protocols, image compression, copyrights, collaborative authoring tools and indexing, storing, searching, browsing and retrieval of

multimedia content."[13] Three initial pilot projects have been identified: 1) aerospace; 2) health care; and, 3) education.

Access and equity are, indeed, major concerns of people working in the field of educational telecommunications.

Efforts are also underway to address issues of access and equity. As the Telecommunications Reform Bill goes through Congress this year, advocates will be watching to ensure that the legislation addresses the issue of equity and access. In a draft letter to the Senate Commerce Committee which is presently working on the Bill, Mr. Bill Wright of the Consortium for School Networking (CoSN) wrote:

> Telecommunications technologies will open new doors of educational opportunities for our children. Access to the GII is critical to ensuring that our children can succeed in an increasingly technological world marketplace. However, for schools to have meaningful access to telecommunications and information services, access must be universal and affordable. While opening up the telecommunications marketplace to increased competition stands to increase affordability, our long-term educational interests demand including that goal specifically in legislation.[14]

Other equity and access efforts are directly aimed at minority communities which are at higher risk of being left behind. Among organizations in the forefront of such efforts is Quality Education For Minorities (QEM) Network of Washington, D. C. One of QEM's innovative projects is to electronically link low-income, public housing residents with selected, predominantly minority institutions. "Technology offers the best chance," says QEM's President Shirley McBay, "for leveling the academic playing field for children and youth from low-income families."[15] To ensure access and equity, these advocates will push for, among other things, a technology that is both affordable and user-friendly. Access and equity are, indeed, major concerns of people working in the field of educational telecommunications.

A Proposal

Because the electronic highway knows no state or national boundaries, efforts to control what our children see, read, learn or do on the Internet must be joined at several levels and involve both technological and administrative strategies. These levels must include:

1. International efforts carried out under the auspices of such agencies as the United Nations Telecommunications Union (ITU), the World Trade Organization (WTO), and Interpol, to name a few. Through such agencies, broad parameters must be negotiated to meet the diverse cultures, laws, statutes, and educational philosophies. In addition, agreements should be sought to standardize relevant hardware and software, interconnecting protocols, law enforcement interventions, as well as cryptographic guidelines.
2. National strategies that can be appropriately linked to the above. Because of its leadership in telecommunications technology, the U. S. has had a bit of a head start in crafting national legislation to meet the challenges of the GII. In its intellectual property protections, for instance, the U. S. has already ensured coincidence with the related international statute: the Berne Convention. Where the U. S. is ahead of the international community, the U. S. laws can serve as models. Our laws already cover privacy of electronic communications; illegal access to and disclosure of stored communications; transportation of obscene matter for sale or distribution; child pornography; and so forth. As part of the Telecommunications Reform Bill currently before the Senate Commerce Committee (as of late April, 1995), the U. S. should include a section which 1) encourages effective utilization of educational telecommunications in schools and homes; 2) holds schools harmless in the event of system abuses beyond the schools' control; and, 3) assures swift and harsh punishment for those who blatantly subject children and youth to inappropriate electronic contacts. Finally, the new legislation should 4) require that all electronic mail include the address of the sender which can easily be traced to a legal name.

   To be effective however, such legislation should include funding to help school systems purchase hardware and software and, in particular, to provide training for teachers. Survey results from the National Center for Educational Statistics indicate that only 3% of our nation's classrooms have access to the Internet or use information services for instructional purposes.[16] A recent report of the U. S. Office of Technology Assessment (OTA) entitled, "Teachers and Technology: Making the Connection," states that even though $2.13 billion were spent on public K-12 instructional technology in 1993, a substantial number of teachers reported little or no use of computers for instruction. The OTA report suggests that lack of teacher training on the use of this resource may be part of the problem.[17] Increased material resources, teacher training and pedagogical changes in schools would help create a climate where the telecommunications technology would be an accepted and normal part of the educational enterprise and, thereby, less susceptible to abuse.
3. This progressive narrowing of regulatory and administrative focus should continue to the state level; and broad appropriate use policies (AUPs) and laws should be a part of statewide educational governance.
4. If the above levels have achieved their goals, then the local level will be left with adequate latitude to

maximize the value of educational telecommunications without the burden of liability or of unduly policing students. The bulk of the local school's work would be to effectively articulate the community's values and standards of interpersonal etiquette which apply in verbal as well as electronic communication.

5. At home, parents should encourage moderation in the use of computers, especially for real-time communication, games, and virtual socializing. Some of these activities can be addictive and youngsters can lose a sense of reality. But parents should also realize that the computer network can be a source of exposure to a universe of information and education which was inconceivable only a few years ago. For example, when youngsters do their school assignments, the tasks can become take-off points for in-depth studies of class topics way beyond the teachers' fondest hopes.

Conclusion

Before parents and educators worry themselves silly about the dangers of access to the electronic highway, they must remember the violence, sex, and crime which characterize television programs 24 hours a day. Even the most "kid-oriented" programs on Nickelodeon are unable to resist the sleaze that sells adult movies and books. Yet we continue to keep one, two, or three television sets in our homes, often with questionable monitoring of what our children watch. The Internet and educational CD-ROM programs now available to families through the computer may yet wean our children from the television and close the gap between school and home.

What should our children see, read, learn or do on the Internet? And who should decide? Perhaps the answer to both questions is that they will see, learn, read, and do what we, as parents and educators, help them to see, learn, read and do. If we do not help them, or do not take an interest in what they do, an interested partner may appear in cyberspace and take our youngsters to worlds we do not know.

Notes

[1]Marlene Goss, "A Sincere Letter." Available from Discussion List of the Consortium for Educational Networking (CoSN); e-mail address: Info@cosn.org.

[2]Ibid. Also see "Teachers and Technology: Making the Connection," Report of the U.S. Office of Technology Assessment (OTA), April 2, 1995.

[3]Marlene Goss, "A Sincere Letter."

[4]Jack Crawford, "Editorial Liability." Available from Discussion List of the Consortium for Educational Networking (CoSN); e-mail address: Info@cosn.org.

[5]Richard Grayson, "On-Line Defamation." Available from Discussion List of the Consortium for Educational Networking (CoSN); e-mail address: Info@cosn.org.

[6]John Markoff, "A Dose of Insecurity: Intruders Set Snares on Data Highway," *The New York Times*, November 1, 1993, C1.

[7]James Daly, "Tougher Computer Crime Laws Sought," *Computerworld*, April 5, 1993, 20.

[8]Joshua Cooper Ramo, "A SWAT Team in Cyberspace: How to Fight Crime on the Internet," *Newsweek*, February 21, 1994, 73.

[9]Susan Trausch, "Plugged into the Network," *The Boston Globe*, May 19, 1993, 13.

[10]Judy Rakowsky, "Indictment Targets Computer Pornography," *The Boston Globe*, December 17, 1993, 37.

[11]Beth Gold-Bernstein, "Assessing the Value of Computer (Networks) in Schools." Discussion topic on the Consortium for Educational Networking (CoSN).

[12]See "Application Profile—Expanding State Services," *In Iowa Government Circles, Communication is a Piece of Cake*, a publication of the State of Iowa, July 1994.

[13]Smart Valley, Inc. and Cunningham Communications, Inc. Press release, March 20, 1995.

[14]From a letter drafted by Bill Wright, administrator of the CoSN Discussion List, which was distributed to national organizations representing local school boards, teachers, administrators, and education technology advocates, to use as a starting point in a campaign to convince the U.S. Congress to include universal and affordable access to telecommunications bill currently being negotiated.

[15]Quality Education for Minorities (QEM) Network. Press Release, December 12, 1994.

[16]See "Teachers and Technology: Making the Connection." Report of the U.S. Office of Technology (OTA), April 2, 1995.

[17]Ibid.

Sondlo Leonard Mhlaba is the director of the Academic Resource Center and assistant professor of Applied Mathematics and Sciences at Wentworth Institute of Technology.

Quest to Own the Information Superhighway: How Much of It Can Blacks Realistically Expect to Own?

by Matthew S. Scott

On the so-called information superhighway, cable systems, wire telephone lines, cellular services, satellite delivery and broadcast properties are converging to create an interconnecting electronic system on which audio, video and text can travel worldwide. Even though the system is not yet complete, many African Americans have expressed concern that they will somehow be left out on the back roads without an ownership stake. This essay will attempt to answer some of those questions pertinent to this quest of ownership.

If information is destined to become the currency of the 21st century, how important is it that blacks own part of the system on which that information travels?

African Americans already control part of the information superhighway. About 200 of the nation's 10,000 broadcast stations are black-owned. Though small in number, these stations are critical to minority communities: they provide key information to keep minorities informed; a receptive platform for political debate and social commentary; a showcase for minority artists and culture; and a vocational training ground where careers can developed. Observers in the black community want to ensure the information superhighway provides those same benefits.

Unfortunately, minorities have had little success increasing their small share of the nation's commercial broadcast television and radio stations. As new wireless technologies are spun off, as the cable industry expands to more than 500 channels and as the broadcast and telecommunications industries begin to converge, many are hoping that African Americans and other minorities will be able to garner a larger share of the ownership pie. "The broadcasting industry began when people weren't really sensitive to including different population groups," says Jo Ann Anderson, of the National Congress for Community Economic Development in Washington, D.C. "That's a mistake we don't want to repeat with the new technologies."

Indeed, that would be a mistake that would cost African Americans on several fronts. "We're talking about new industries that are going to be in the forefront of job creation and wealth creation in this country," says Christopher Bell, publisher of the *Minority Telecommunications Strategy Newsletter*, the Chicago-based minority telecommunications strategy newsletter. Bell estimates that by the year 2000, the Internet and all the industries that support its development, will create over 300,000 jobs and generate $1 trillion in revenues—about one-sixth of the American economy. He reasons that since studies show that minority telecommunications property owners tend to hire a proportionately larger number of minorities than white property owners, the best way to ensure that people of color benefit from the development of new technologies is to make sure that they own businesses within those industries. "We've got to establish ownership now because this is like the building blocks of the future of technology," Bell warns. "As technology moves forward, it's going to be more and more difficult for blacks to get involved in any meaningful way."

To get involved, blacks can seek ownership by investing in start-up ventures or by acquiring an existing entity. They can also pull together a consortium of investors, business executives and telecommunications experts of all races to start a new business. And of course, there is the option of seeking partial ownership with whites who are established in the industry. Overall, Anderson believes ownership opportunities will increase because, "the momentum seems to be toward breaking down monopolies and trying to assure that there's competition."

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That might be so, but significant barriers to minority ownership remain. The Republican Congress' repeal of the 17 year-old tax certificate program dealt a serious blow to minorities seeking broadcast ownership opportunities. "As a result of that action, there are a number of opportunities that minorities won't even be considered for," explains attorney Thomas Hart Jr., who represents Essence Communications in its bid to purchase telecommunications properties. "Sprint recently announced that it was going to sell its cellular properties. If we had a tax certificate program, there would've been a very good chance that at least one or more of those properties would've gone to a minority. Now, there's not even any consideration being given to minority concerns that want to purchase."

And there will most likely be no more special consideration given to minorities competing for FCC telecommunications licenses as they are auctioned off. The growing opposition to affirmative action and several Supreme Court decisions have made programs intended to even the playing field for minority telecommunications ownership targets for elimination. In July, the FCC revoked its race and gender preference policy for its PCS license C-Block auctions—an action many believe further stalls the efforts of minorities to gain ownership opportunities within this emerging form of wireless communications. Secretly, industry insiders acknowledge that the window of opportunity is closing rapidly.

In addition to those policy problems, African Americans face the perpetual barrier of lack of access to capital. "People are hoping that there are going to be a lot of players," says Anthony Williams, president and CEO of Washington, D.C.-based Broadcast Capital Fund Inc., which funds minority broadcasting ventures. "The reality is that the cost to participate is so significant and the technology so sophisticated and high-risk, that only a few people are going to end up in the game."

Williams estimates that the auction price of a Personal Communications Services (PCS) license represents only a fraction of the total cost of building a wireless communications system. Maceo Sloan recently paid $91 million for five such licenses. After the system is built, more money must be spent to maintain, market and operate the system. "That's substantial capital for the minority business community to come up with for a new service that requires you to compete for customers," says Williams.

And the problems are no different in Africa. While all African countries have some system to send and receive e-mail, only eleven currently have full Internet connections: Algeria, Botswana, Egypt, Kenya, Morocco, Mozambique, Namibia, South Africa, Uganda, Zambia and Zimbabwe. This makes the continent particularly fertile for start-ups that can provide basic Internet services. However, since there is very little suitable infrastructure in place and because the cost of computers and other technologies are relatively expensive, telecommunications ownership opportunities in Africa are still limited to a select few. Many of these players are expatriates who are wealthy enough to have returned to their home countries with the expertise to establish Internet connections with specific foreign countries at costs that can average $200,000 a year. Many of the state-run telephone companies have also established Internet connections. But the landscape is changing.

"I can see AT&T and MCI emerging as the big Internet providers in a couple of years," says Ayisi Makatiani, president and CEO of Africa Online, an Internet provider with offices in Kenya and New York. "They're going to buy out the smaller fish who are already providing it now." He cites AT&T's proposed Africa One project—an attempt to provide a cable link for the entire continent that would accelerate African countries' efforts to obtain full access to the Internet as the first step in that direction.

Although the other industry observers in Africa are in favor of AT&T's effort and other similar ventures, Makatiani cautions, "Unless Africans seize opportunities to run their own networks and plan their own connections to the information superhighway, we'll be left so far behind that we'll have to look for technical support and help from foreign countries. We'll find we don't have control and we'll have the same situation we have now, where information about us is reported by others and not ourselves." He estimates as much as 80 percent of all information on Africa is generated outside the continent.

So are Africans and African-Americans destined to have dismal ownership representation on the information superhighway?

Black ownership of the delivery systems that make up the information superhighway is not likely to improve significantly. However, rather than concentrating on owning cable, telephone, broadcast and cellular systems, blacks have been creating special services and programming that are carried on these systems with great success. For example, online services and bulletin boards that are black oriented number in the hundreds with more being created every month.

Larry Irving, Executive Director of the National Telecommunications and Information Administration, a part of the U.S. Department of Commerce, says ongoing development of these ethnic-specific systems and programming is key. "The reason you're seeing AT&T, Paramount and the networks all trying to buy production companies and software firms is because they know that content is where the profit margins are really going to be," Irving asserts. "I get calls all the time from people who either want a broadcast license or PCS license. I'm waiting for the calls that ask, 'How do I get into software development? How do I get into content?' " Many observers agree with Irving, reasoning that content will be more vital than ownership of the systems because it is the content that will ultimately drive the usage of the Internet.

The point is that the Internet is only as valuable as the information that is on it. Yes, the Internet is also used for information transfer, but you do not need the Internet

when modems, and telephones lines will do. It is when the Internet provides content or services that you cannot get as cheaply or easily through any other means that its true value shines through. So whether it's downloading up-to-the-minute information on the stock market, or obtaining the newest version of your favorite software without leaving your home, or providing afrocentric software and online information—it is these types of activities that will generate Internet traffic; thereby increasing the value of the system overall.

The point is that the Internet is only as valuable as the information that is on it.

And African Americans can receive much greater benefit from creating content than they can trying to purchase the nation's information infrastructure. As Irving puts it, "There are limits to the number of people who can own and expand the distribution systems of the Internet, but there are limitless opportunities to develop software."

As long as the Internet and other information systems carry information and programming that serves the black community, a black voice and presence will be represented—and the effects of black ownership achieved. The danger lies in making sure that the mechanisms and costs for placing these services on the information superhighway are not structured in a way that adversely affects minorities.

Please contact the following organizations for more information on the topic of the Internet and ownership: National Telecommunication and Information Administration (202) 482-1840; Africa Online (617) 666-9559; National Congress for Community Economic Development (202) 234-5009; Minority Telcom Strategy Newsletter (312) 667-6253; Broadcast Capital Fund, Inc. (202) 429-5393.

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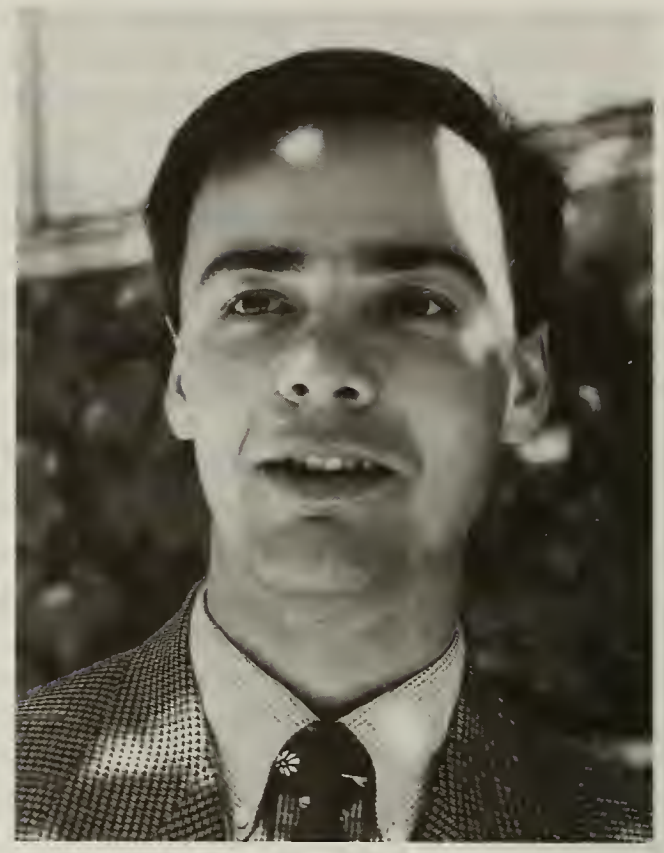
Creative Destruction in the Information Age: The Fallout on America's Latino Communities

by Anthony G. Wilhelm



Introduction

The 104th Congress is in the midst of the first wholesale reform of telecommunications regulation in one-half century. The new regulatory framework emerging in the Republican-controlled Congress, if enacted, will usher in a radically deregulated, market-driven telecom environment, one in which the benefits of the emerging national information infrastructure will likely be distributed differentially, based on ethnicity and socio-economic status. Many U.S. residents may actually be charged higher rates for essential telecommunication services after deregulation (just as they did when cable television was deregulated), which may force many vulnerable users off the network. In addition, the concentration of media ownership eschews the viability of greater minority control of telecommunications and media outlets. The irony then is that although advanced, interactive technologies promise empowerment and choice, a *laissez-faire* approach to reform may exacerbate fault lines in the information society between those who are already advantaged and less affluent ethnic and racial minorities.

In the 1940s, Joseph Schumpeter coined the term "creative destruction" to refer to the rapid economic and technological transformations that typify societies dominated by market economies.[1] The act of creating new products inescapably leads to the destruction of what preceded it. Knowing that the market is dynamic, it is difficult at best to prognosticate with any confidence how the destruction of the old industrial-age order—centered on the production and movement of commodities—will affect communities of color. There will no doubt be opportunities as well as hurdles to overcome as the creation of the new order—founded on the commodification of digital bits—supersedes the transfer of material things. But a just, reasonable, and compassionate public policy is necessary (although insufficient) to ensure that these opportunities are available to all strata of society. Rather than pinpoint the exact nature of these changes, this essay will simply provide guideposts with which interested persons can hopefully find their bearings as day breaks over the information society.

Latinos and Telecommunications Today

The telecommunications debate in the U.S. is at a crossroads. However, the voices of Latinos[2] have been conspicuously absent. When the White House Advisory Council on the National Information Infrastructure was first announced, for example, not a single Hispanic was on it. Only later was Eduardo Gomez, president and general manager of Albuquerque's KABQ radio added to the Council. The importance of this Council (and of telecommunications policy in general) for Latino communities cannot be overstated. In a society that is becoming more technology-dependent, all communities of color must have access to the tools that will both meet their information/communication needs and increase their prospects for success in the global economy.

The lack of access to the policy process on the part of Latinos is all the more disconcerting since Hispanics currently lag behind non-Hispanics in access to and use of telecommunications tools, namely, telephones and computers. While most take for granted the presence of a telephone in the home, Hispanic households lack basic service at a rate 2 1/2 times the national average. In November 1994, for example, the national telephone penetration rate was 93.8 percent. However, for Latino households, only 85.8 percent had access to a phone.[3] Without links to the outside world, many Latino residents may face further marginalization from the society at large.

Although they are fast becoming vital components of work, school, social and private media environments,

The views expressed in this essay are those of the author and do not necessarily reflect those of The Tomás Rivera Center or its Trustees.

advanced telecommunications technologies such as computer networks are also disproportionately absent from the lives of America's Hispanic communities. In terms of home computer access, the rate for whites, as of November 1994, was twice that for Hispanics, with over one in four whites (28.6%) in the U.S. having a home computer compared to one in eight Hispanics (13.1%).[4] Hispanics are also less likely to use a computer at work, with 29.3 percent of Hispanics using a computer on the job compared to 45.8 percent of all persons.[5] Although some of the gap between Hispanics and non-Hispanics can be explained by income (after all, Hispanics are disproportionately low income), a Tomás Rivera Center report finds that even when income and education are held constant, Latinos are still less likely to have access to essential information technology.[6]

Creative Destruction in the Technological Society

Fostering computer literacy among Hispanics, especially children, cannot be overemphasized, since the emerging information society will leave in its wake those who lack the skills needed to compete. Those who have PC skills already earn more than those without. Conversely, individuals without computer literacy may face obsolescence in a dynamic marketplace.[7] As Peter Drucker has pointed out, "universal literacy of a very high order is the first priority . . . without it, no society can hope to be capable of high performance in the post-capitalist world and in its knowledge society."[8] This knowledge society about which Drucker writes is one in which the manipulation of computers and an understanding of the dynamics of technology are essential.

Latinos face formidable challenges in being disproportionately implicated in the technologies and social relations of the late industrial age—an age that is currently experiencing its eclipse by the post-industrial, information-based economy. To illustrate: Latinos attend classrooms with fewer computers per capita than their non-Latino counterparts;[9] go to schools with facilities not designed or equipped for a twenty-first century educational infrastructure;[10] live in media environments dominated by passive, one-way tele-technologies such as television, rather than interactive, computer-based multimedia;[11] and work disproportionately in jobs that are susceptible to obsolescence due to advances in technology.[12]

In many ways, how Schumpeter captured the dynamic of capitalism in the early 1940s—describing its frenetic impulse to found new markets and new consumer goods—is more relevant today than ever before. The rhythm of change is more rapid, which puts greater burden on people to adapt more quickly. The example of the computer is relevant here. The processing power of the microchip doubles at least every eighteen months, demanding the birth of new hardware and software and the simultaneous banishing of the older technology to yard sales and attics. The newer technology—e.g., the Pentium processor—puts pressure on public and private institutions to upgrade so as not to "fall behind." This means schools must spend precious resources on extremely capital-intensive equipment; parents must ponder purchasing a multimedia system with enough memory to run the array of images that keep their children so enthralled; and employers must invest in retraining their workers to compete in a hi-tech, global economy. For those shrinking numbers who are fortunate enough to make the adjustment to a technology-intensive society, their opportunities for success are greatly enhanced. Conversely, the multitudes who do not have the resources, skills, and knowledge to adapt (a disproportionate number at present being ethnic and racial minorities) will likely continue to experience high rates of unemployment, poverty and marginalization.

The Dawning of a New Regulatory Framework

Although the development of the national information infrastructure is largely market-driven, prudent public policy can help ease the transition process so that access to the information and communication tools of the future will be made available to all residents. A policy that unleashes the market before the conditions are in place for viable competition may adversely impact low-income customers. Following the divestiture of AT&T and the subsequent end of cross-subsidization of basic residential service, for example, most states developed universal lifeline policies that eased the cost burden on low-income users. As California State Senator Richard G. Polanco has suggested, "the 'tools of technology' that we use in government must provide maximum benefit to all our residents. We must do all we can to remove the glass ceiling that separates the information poor from the information rich. What that requires is thoughtful policy..."[13] What this statement reveals is the enduring relevance of good public policy to the development of just, reasonable, and compassionate telecommunications laws.

We must do all we can to remove the glass ceiling that separates the information poor from the information rich.

The U.S. Congress is currently overhauling telecommunications policy. In March, the Senate passed the "Telecommunications Competition and Deregulation Act of 1995" (S. 652), whose stated purpose was to "provide for a pro-competitive, de-regulatory national policy framework." In many respects S. 652 conflates the concepts "deregulation" and "competition," as if the elimination of current regulatory barriers would ineluctably lead to competition. On the contrary, the "Communications Act of 1995," which by most accounts was more radical than the Senate bill, calls for an end to many cross-ownership rules and the rapid deregulation of cable television rates. These provisions by no means assure the cultivation of a competitive

telecommunications environment.

The Clinton Administration has circulated its misgivings about the Senate and the House versions of the telecommunications bill. In a letter to Senator Ernest Hollings, President Clinton summed up his concerns as follows:

> Legislation should protect and promote diversity of ownership and opinions in the mass media, should protect consumers from unjustified rate increases for cable and telephone services, and, in particular, should include a test specifically designed to ensure that the Bell companies entering into long distance markets will not impede competition.[14]

The Administration seems to understand perhaps better than the majority in Congress that "real competition" does not follow directly from the elimination of the rate-of-return regulatory model. Pushing for Department of Justice (DOJ) involvement in the determination of whether entry by local exchange carriers into new markets would indeed promote competition, for example, provides a check against unbridled concentration of ownership. While the Congress is pushing for an end to traditional government regulation of the telecom industry and a downsizing of the Federal Communications Commission (FCC), the Administration remains committed to as much governmental oversight as will protect the public interest.

The States are already opening their local telephone markets to competition, with twelve states now open to competition (including Illinois and New York) and twenty others (including California, Texas, and Florida) allowing partial competitive status to telecommunications providers.[15] The states have been experimenting with alternative regulation for some time, and have offered companies various incentives to build innovative infrastructures while preserving universal service and keeping rates down. Since 1987, for example, state regulatory commissions have ordered rate reductions totaling $4.11 billion.[16] They wince at the thought of federal preemption of state and local barriers to competition (see S. 652, § 201; HR 1555, § 243), arguing that they have a better understanding of their markets and local exchange companies than the federal government.

Impacts of Telecommunication Deregulation

Following the break-up of AT&T in 1984, a number of smaller Regional Bell Operating Companies (RBOCs) were carved out of Ma Bell to provide local telephone service in the United States. These companies (NYNEX, Bell Atlantic, Bell South, SBC Communications, Ameritech, U.S. West, and Pacific Bell), along with a few independent local telephone service providers (most notably GTE), are some of the greatest proponents of competition. Since these companies have abundant economic resources (1993 revenues totaling $84.2 billion)[17] they favor immediate deregulation, which would give them a green light to enter the long-distance business. They oppose the language of "facilities-based competitors" which they claim would delay their entry into long-distance. To influence key legislation such as this, the RBOCs have contributed over $12.5 million to members of Congress between 1984 and 1994.

Long-distance companies, such as AT&T, Sprint, and MCI, are also major players in the telecommunications arena, with revenues topping $60 billion in 1992.[18] They intend to compete on the local level while providing national backbones for telecommunications services. Thus, they favor relatively rapid deregulation, with the precondition that the RBOCs face actual competition in the local phone market before they are permitted to compete head-to-head for long-distance services. Armed with high profile lobbyists like Howard Baker and having sunk over $9 million into the war chest of elected officials, long-distance companies have had enormous impact on the shape of this legislation. The industry is also branching out into the provision of cellular, wireless and Personal Communications Services (PCS). PCS will include portable personal faxes, data telecommunications, and a number of other new applications.

The effects of deregulation on Latino communities will be dramatic. Those in favor of immediate deregulation often point to the tremendous benefits that are forecast by some economists. Those in favor of a more moderate, protracted process not only contest these economic forecasts but also point to the potential social impacts of removing the regulations that currently bind telecommunications companies, most notably, cross-ownership and universal service provisions.

Many advocates of immediate, complete deregulation, the RBOCs in particular, point to the substantial benefits that fewer regulations could have on the U.S. economy. To this end they have funded several studies to measure the economic impact of deregulation. A recent report by the WEFA Group, an international economic forecasting firm, projected that there would be significant consumer savings over the next decade following *immediate* deregulation.[19] PNR & Associates, a marketing research organization specializing in telecommunications, analyzed the WEFA data to determine to what extent savings would be realized by all ethnic groups. The report found that Hispanic consumers would save more than average because they spend more per household on various communication services. The projected monthly savings, by industry, are $17 per household on long-distance service; $8 per household on cable TV services; and $2 per households on local telephone service.[20] In sharp contrast, a study conducted by the Consumer Federation of America (CFA) on the impact of S. 652 reveals that residential rates would initially increase from the current average of $13.21 to $22.45 after the first year, and $40.00 after four years.[21] As is clear from the CFA study, basic rates for phone service would increase by over 200 percent over the next four years under the deregulatory conditions of S. 652, resulting in a cost to consumers of $44 billion.

In addition to the economic impacts of deregulation,

certain provisions which the current legislation addresses (as well as features that the bills ignore) are sure to have a profound impact of the social, political and interpersonal lives of Latinos. There are three issues of particular importance. The first issue is universal service, the provision of advanced telecommunications and information technologies and services to all U.S. residents at "just, reasonable, and affordable rates."[22] Both the House and the Senate bills call for a Federal-State Joint Board, instituted by the FCC, to recommend rules regarding the definition, implementation and enforcement of a universal service policy. While the issue of telecommunications is undoubtedly complex, it is intriguing that yet another entity must be created to provide recommendations about what is just and reasonable. As early as the 1920s, John Dewey worried about the control of society by experts—those elites who were "in the know" about complex issues—since they often not only clarified the technical issues for the larger policy but also the moral, political and social ones as well. A universal service policy that attends more to the advancement of higher capacity conduits and more powerful hardware and less to the improvement of the human community (e.g., valuing the network for the diversity of voices that are on it) is one of which the public should be suspicious.

The erosion of cross-ownership barriers and the continued consolidation of telecommunications and media output, secondly, will send tremors through minority communities. It is clear that the "media monopoly," to use Ben Bagdikian's term,[23] is inimical to the diversity of sources that could carry the voices of Latino and other minority communities. The cost of entry is so high to acquire licenses for broadcasting and advanced telecommunications services such as PCS that minorities are at a distinct disadvantage relative to established media goliaths. What is more, the relaxed cross-ownership restrictions on broadcasters means that smaller minority companies may lose out in publishing and producing the images and words that portray their communities in the most authentic manner. A recent report by the National Council of La Raza, for example, suggested that Hispanics are almost invisible in both the entertainment and news media, and when they did appear, they were "consistently and uniformly portrayed more negatively than other racial and ethnic groups."[24]

The final issue surrounds the development of an "open architecture platform" that would enable all users to access a low-cost, switched, digital network. If an open platform were constructed (rather than one in which end-users can merely choose from a preselected menu of movies, products, channels, etc.), then users could be publishers as well as consumers of information; they could participate in public forums and access a wealth of information, services and applications that could potentially meet their needs. One key is to have sufficient upstream capacity to originate and to receive these services, many of which require enough bandwidth to transmit full-motion video, multimedia, etc. As a recent release by the Electronic Frontier Foundation (EFF) stresses:

> If new network services are deployed with adequate down- and up-stream capacity, and allow peer-to-peer communication, then each user of the network can be both an information consumer and publisher. Network architecture which is truly peer-to-peer can help produce in digital media the kind of information diversity that only exists today in the print media.[25]

Actually, the EFF probably overestimates the diversity in today's media, as the NCLR report shows. The benefit of the interactive network is to empower *individual users* to publish their own stories, rather than having these be mediatized by the dominant culture.

One concern in the development of an open platform—the sort that cable and telephone companies have promised—is the circumvention of low-income and minority communities in the provision of advanced services. A recent report released by the Center for Media Education (CME) found that several local exchange carriers were engaged in electronic redlining, bypassing low-income and minority communities in the advancement of video on demand.[26] According to CME, the communities that are now being outfitted for video dialtone have median incomes of between $50,000 and $60,000, about 2½ times the income of the median Latino household.

Conclusion

A critical issue for policymakers is to ensure that a flexible baseline for essential service be established, above and beyond which the *users*, not the basic subscribers, will pay for services. The deregulation of the telecommunications industry is going to pose a number of new challenges to society. To ensure that the goals of universal service, access, and affordability are promoted will require the concerted efforts of policy makers, non-profits, the private sector, consumer groups, etc. While facilitating greater competition would likely create the conditions for greater media ownership for Latino firms and lower rates for residents, imprudent legislation might destroy this foundation. The result could well be a fractured society in which low-income persons as well as ethnic and racial minorities are isolated from the rest of society. To mitigate against growing inequalities in society between (information) rich and poor, policy makers and industry must be held accountable for their decisions on such vital issues as telecommunications policy and development. They ought to respond to the needs of their constituents/ customers—in particular, those who for too long have been ignored—and not only to the affluent society.

Notes

[1]See Joseph Alois Schumpeter, *Capitalism, Socialism, and Democracy* (New York: Harper, 1942). I borrow from Schumpeter his dynamic analysis of the market. Although the economist had plenty to say about monopoly capitalism, it plays no part in this analysis.

[2]This article uses the terms Latino and Hispanic interchangeably to refer to people who can trace their ancestry to the Spanish-speaking regions of Latin America and the Caribbean. The term Latino communities is also used to recognize the perceived heterogeneity among the major Latino national origin populations in the United States.

[3]Alexander Belinfanter, *Telephone Subscribership Data* (Washington, D.C.: Federal Communications Commission, 1995).

[4]U.S. Department of Commerce. *Current Population Survey* (Washington, D.C.: Bureau of the Census, 1994).

[5]U.S. Department of Commerce. *Current Population Survey* (Washington, D.C.: Bureau of the Census, 1993).

[6]A new study by the Tomás Rivera Center reveals that even when we control for age, education, income and occupation, non-Latinos are still 1½ times more likely than their Latino counterparts to have a computer in the home. See Anthony Wilhelm, *Latinos and Information Technology: Preparing for the Twenty-First Century* (Claremont, CA: The Tomás Rivera Center, 1995).

[7]For an intriguing argument on how innovations in technology are actually responsible for the loss of millions of jobs in the U.S., many of which having been performed by Latinos in the agricultural and manufacturing sectors, see Jeremy Rifkin, *The End of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era* (New York: Jeremy P. Tarcher/Putnam, 1995).

[8]Peter F. Drucker, *Post-Capitalist Society* (New York: HarperBusiness, 1993). For another version of the story about the decline of work and the rise in currency of an elite group of *symbolic analysts* responsible for the manipulation of information and knowledge, see Robert B. Reich, *The Work of Nations* (New York: Random, 1991).

[9]According to Henry Jay Becker, the average Hispanic student's school nationwide has nineteen percent fewer computers per capita than the average student's school. See *Analysis and Trends of School Use of New Information Technologies*, prepared for the U.S. Congress, Office of Technology Assessment (Washington, D.C.: U.S. Government Printing Office, 1994).

[10]See U.S. General Accounting Office, *School Facilities: America's Schools Not Designed or Equipped for 21st Century* (Washington, D.C.: U.S. Government Printing Office, 1995). The report states that "to prepare the nation's children and teenagers to be competitive workers in the 21st century, experts and business leaders say modern telecommunication technologies should be part of America's elementary and secondary education, not just the sole province of a few schools" (7). However, many schools lack the conduits, fiber-optic cables, wiring and power to be able to support advanced hardware.

[11]For an interesting article on the dominant place of the television in today's American household, see Todd Gitlin, "Flat and Happy," *The Wilson Quarterly* 17:4 (1993): 47-55. Although it could be argued that the television as a passive medium will soon be replaced by a more interactive medium, video on demand and other broadband services will arrive first in the homes of the affluent, not in most Latino households, the overwhelming majority of which being low and middle income.

[12]See Jeremy Rifkin, *The End of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era* (New York: Putnam, 1995) and Benjamin R. Barber, *Jihad vs. McWorld* (New York: Times Books, 1995) for an analysis of how the service and information sectors are displacing employment, particularly those jobs in manufacturing and agriculture. Since Latinos are disproportionately laborers, farmers, operators, etc., many face bleak prospects without retraining and relearning opportunities.

[13]Senator Richard G. Polanco, Press Release on California's telecommunications technology.

[14]William J. Clinton, "Letter to Senator Ernest Hollings Regarding Telecommunications Legislation," October 26, 1995. Available from roundtable@cni.org. Internet.

[15]National Association of Regulatory Utility Commissioners, "Summary of Competitive Status by Population." In Comments of Sharon L. Nelson, Washington Utilities and Transportation Commission. Before the Senate Judiciary Subcommittee on Antitrust, Monopolies and Business Rights. Washington, D.C.

[16]National Association of Regulatory Utility Commissioners, "Letter to Senator Ernest Hollings Regarding S. 1822," September 13, 1994. Available from NARUC.

[17]John Healey, et al., "The Information Arena," *Congressional Quarterly* 19 (supplement) (1994): 7-74.

[18]Ibid.

[19]Immediate deregulation refers to entirely and permanently eliminating the Modification of Final Judgment (MFJ) restrictions, which bar local exchange carriers from providing long-distance telephone services, information services and manufacturing telephone equipment as well as the video programming prohibition, which forbids Bell companies from providing video programming to subscribers in their respective telephone service areas. See the WEFA Group, *Economic Impact of Eliminating the Line-of-Business Restrictions on the Bell Companies* (Bala Cynwyd, PA: The WEFA Group, 1993).

[20]PNR & Associates, Inc. "Spending and Saving on Communications Services by Minorities" (PNR & Associates, Inc., 1994).

[21]The Consumer Federation of America, *Impact of S. 652 Rate Deregulation on RBOCs* (Washington, D.C.: CFA, 1995).

[22]Quality services are to be provided in this manner, according to §103 of S. 652 and at "just and reasonable rates" in §246 of HR 1555. I have inserted the term "compassionate" to suggest the value of a network is not only based on what people "deserve," in the narrow sense of justice, but rather how many people can access the system, including the most vulnerable resident in the society.

[23]Ben Bagdikian suggests that just twenty-three corporations control "most of the business in daily newspapers, magazines, television, books and motion pictures." See Ben J. Bagdikian, *The Media Monopoly*, fourth edition (Boston: Beacon Press, 1992).

[24]The National Council of LaRaza, *Out of the Picture: Hispanics in the Media* (Washington, D.C.: NCLR, 1994).

[25]Electronic Frontier Foundation, "Open Platform Campaign: Public Policy for the Information Age" (Washington, D.C.: EFF, 1993).

[26]See Center for Media Education, *Petition for Relief from Unjust and Unreasonable Discrimination in the Deployment of Video Dialtone Facilities* (Washington, D.C.: CME, 1994).

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Computer Utilization and Attitudinal Patterns in a Black Community

by James Jennings

During the Spring and Summer of 1995 The William Monroe Trotter Institute conducted a survey of resident utilization patterns and attitudes towards various facets of computer technology. This survey was commissioned by Freedom House, Inc. and supported with a grant from the AT&T Foundation in Boston, Massachusetts. The goal of this survey, composed of adult residents who have been served by Freedom House, and agency representatives of a small number of selected community-based organizations, is to inform planners at this agency about the computer technical needs, interests, and utilization patterns of its clients.

The survey conducted by The Trotter Institute provides information about the level of knowledge and utilization by residents and clients of Freedom House. This survey is a limited, and exploratory study. Nevertheless, the findings may prove useful about germane and critical questions and issues. This survey can be utilized for planning purposes on the part of Freedom House, but also in raising broader questions about strategies for expanding access to computer technology and information superhighway resources in inner cities. This kind of data can be useful in planning and developing future computer education and training programs for the benefit of community residents. Freedom House can utilize the findings of this report to assess the appropriateness of current computer courses, and other computer technology services; determining the feasibility, or range, of fees for computer courses and computer-related technical assistance; planning logistical arrangements, i.e., best days and hours for offering computer courses and related services; and, determining the kinds of computer hardware that residents should be exposed to for purposes of enhancing the their technological capacities. Freedom House can also utilize the results of this survey to approach funding sources, including government, foundations, and the corporate sector, for assistance in expanding the level of computer and information superhighway literacy, as well as access to these kinds of resources. Additional information about the implications of the findings for planning on the part of Freedom House, as well as future research, is provided in the Conclusion.

Specifically, the survey provides some limited information about the awareness, and current uses of computer technology, as well as attitudes of the target population towards aspects of computer and information technology. Freedom House intends to use this survey, as well as other sources of information, to continue, and to plan expansions of effective education and training programs aimed at enhancing the access of community residents and clients to computer technology and the information superhighway.

The survey produced the following findings:

- While a majority of the respondents (58%) indicated that they own a computer, most did not know what kind, or brand of computer they actually possessed.
- Most respondents indicate that they do not utilize a fax/modem, or CD-ROM drive on the computers they own.
- Very few respondents (6.4%) indicate that they use their computers frequently, or on a daily basis. Only 5.3 percent of respondents indicate that they use their computers at least 4 to 6 times per week.
- Three quarters of the respondents with children indicate that their children use computers at school. One fifth of the respondents with children had no knowledge of their children's use of computers at school.
- The major purpose for utilizing computers among this sample is word processing activities.
- While an overwhelming number of respondents do have a telephone in their homes, and many also have telephone answering machines, most do not have fax machines, voicemail, cellular phones, or pagers. About half the respondents reported having cable television programming.
- A majority of the respondents (> 53.0 percent) are not familiar with terms like, "Information Superhighway," "Pentium Chips," "Desktop Publishing." A significant proportion of the respondents were not familiar with increasingly commonly-used terms like, "hardware," (28.0 percent), or "Email," (33.0 percent), or "software," (33.0 percent).
- Respondents, except for six individuals, indicated that they wanted to learn more about computers, and also wanted their children to learn more about computers. Thirty-three persons in the sample of 93, listed Freedom House and Roxbury Community College as places they would approach for computer technology information. Approximately an equal number (32), however, offered that they would not know where to go to gain this kind of information. Many respondents, almost half of the total sample (54) indicated that they would be willing to spend 3 to 6 hours per week in attending classes for this purpose.
- A significant number of respondents (73) indicated that Monday and Tuesday would be the best days of the week to take classes, and preferably in the evenings. Afternoon sessions were selected by only 14

This essay is based on the actual study entitled, Computer Technology Utilization Survey *by The Trotter Institute/University of Massachusetts Boston and Freedom House, Inc. Copyright 1995.*

respondents, and later days in the week tend not to be preferred by many respondents.

- While thirty-four percent of all respondents would be willing to pay for 4-week computer classes if under $100, an overwhelming majority, or fifty-nine percent, could not afford to pay any amount.
- Most respondents learned something about computers as a result of their children's exposure to computers in schools. While 29 percent learned about computers in this manner, another 38 percent learned something about computers as a result of their job responsibilities, or job settings. A smaller percentage (16.1 percent) were motivated to learn about computers as a result of interest in pursuing entrepreneurial activities.
- Although very few respondents reported being discouraged about learning or using computers, most who did respond this way, indicated that cost of equipment was the major factor.
- Information based on responses from a small number of community-based organizations suggests that this sector is not yet positioned to assist fully in the expansion of access to computer technology and information superhighway resources on the part of their clients.

This report also examines these findings within the context of national developments related to general issues of race, and access to opportunities for learning and utilizing computer technology, including access to the so-called, information superhighway. The Conclusion also suggests briefly the kinds of research activities that should be pursued in light of the findings of this report, as well as potential areas of attention on the part of Freedom House.

Conclusion

The findings of this survey suggest that there may exist some misinformation, and inaccurate perceptions about issues related to access to computer technology and superinformation resources on the part of residents of predominantly Black urban communities. One study reported, for example, that there is a "great deal of technophobia and prejudice with regard to high-technology" on the part of African-Americans, and that "in the minds of many African-Americans having, using and working with computers is considered a 'white thing to do.'" (MiNet, Inc.). This claim is not substantiated by our survey of residents in Boston's inner city neighborhoods. In fact, we discovered the opposite. There is a great demand on the part of Blacks for more information and access to computer technology and information superhighway resources. An overwhelming proportion of the residents interviewed, as well as the representatives of community-based organizations, desire to know more about these issues, and want to become skilled in utilizing elated services. Furthermore, a significant number of respondents are willing to pay for this kind of training and access.

The problem of access does not seem to lie with the attitudes of poor and working-class residents in inner cities, but rather with the prohibitive costs of such services, and lack of information about the uses of computer technology and, resources on the information superhighway. According to a paper by David R. Hughes, Sr. and George L. Johnston, "The Other Half: The Training Cost of a National Telecommunications Infrastructure," and presented to a workshop sponsored by the Science, Technology, and Public Policy Program at Harvard University (May 26-27, 1993), there are basically three kinds of considerations that should be reflected in strategies for training people in computer and information superhighway literacy: technological, economic, and human costs. The latter includes such factors as personal interest and time available for new training and education. Our survey suggests that the components of availability and access to technology, as well as the economic costs of such, are greater obstacles than the human costs incurred in advancing the technological capacities of inner city residents.

Perhaps another misperception is that the general population in this country is far more advanced than residents in inner cities regarding a comprehensive understanding of various facets of computer technology and information superhighway resources. There is certainly a significant gap in access to this information and resources; but this does not necessarily mean that people living outside inner cities know much more about the nature of this technology, beyond basic terms. For instance, a Harris Poll conducted during July 1994 reported that 34% of all adults have computers at home, and 39% use one at work. But it added: "While most people are familiar with the words 'hardware' and 'software,' most people are not familiar with terms such as 'on-line services,' 'E-mail,' 'interactive services,' 'digital information' or the Internet." While 60% of all adults have heard the term 'hardware,' according to this poll, "only 48% have a 'reasonable' understanding of what the term means."[1]

An issue that became apparent in the course of this research, is the gap that seems to be increasing between certain population groups regarding familiarity and utilization of computer technology and superinformation resources. Despite strong interest in wanting to become computer literate, it seems too few residents in inner cities have opportunities to learn more about these issues. The gap between Blacks, Whites, and Latinos regarding access and use of computers, as a matter of fact, continues to widen. According to the U.S. Bureau of the Census, only 4.4% of all Blacks 18 years of age and over had access to a computer in 1984; for Latinos, this figure was 4.1%, and for whites, it was 9.6%. By 1993, these disparities increased; in this year, 13.8% of all Blacks who are 18 years and over enjoyed access to a computer, compared to 12.9% of all Latinos, and 26.9% of all whites in the same age category.[2]

Another important point we wish to make is that survey findings reported here should raise a number of concerns about a broad range of social and economic issues among educators, and representatives of business, and government. According to a national report issued by

The Children's Partnership, "America's Children and the Information Superhighway," (1994) emerging information technologies will change the nature of United States society, and influence the quality of life for all its citizens. A growing number of jobs require skills linked to computer utilization and information superhighway resources. Increasingly, businesses will require workforces that are computer literate. This report estimated that currently the lack of information literacy among large numbers of people costs business between 25 and 30 billion dollars annually. The need of society for a well-informed, and computer literate citizenry is not being addressed, according to this report. And, very importantly, the report added that the commercial marketplace cannot be relied on to rectify some of the problems in this area. Thus, unless government, business, public schools, and communities collaborate to develop appropriate responses and strategies, it seems unlikely that inner cities will be able to marshal resources for computer-related education and preparation of children and adults in these places. While community-based organizations can be a place where this kind of preparation is implemented, it seems that this sector must first prepare itself for this role. Generally, the responses of the agencies indicate that assistance is required in preparing and positioning their organizations for this task.

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The above findings and analysis suggests that Freedom House should explore several possibilities as it continues to plan and implement specific activities related to computer and information technology. This organization should certainly not shy away from a more aggressive and expanded role in this area. Freedom House is currently spearheading a vital effort that should be expanded in order to increase opportunities of access for the inner city of Boston. Since the issue of access to computer and information technology is becoming increasingly important in our society, and for many different reasons, there may be numerous organizations in the corporate and foundation sectors that could partner with Freedom House to expand its role in this area.

The computer training classes offered at this organization should be expanded, in our opinion. The courses should also include advanced modules that go beyond simply the introduction to word processing, spreadsheets, and basic information technology. It seems to us that Freedom House should also consider becoming a major training center, targeted specifically for agency personnel, as well as religious institutions in the community. Training should focus on the immediate uses and applications of computer and information technology, but very importantly, also on conceptual and policy challenges facing these agencies as far as computer and information technology is concerned. By examining and developing responses to pedagogical, political, and policy issues related to computer and information technology, such a training center could raise important issues and possibilities, such as utilizing computer and information technology to improve, and to re-conceptualize, the nature and delivery of a broad range of services offered by community-based organizations. This kind of effort could expand the understanding of this technology in ways that lead to greater programmatic and service collaboration between community-based agencies. Such a training center could also include agency introduction to the plethora of data bases germane to service delivery, and available via the Internet. It can also include assisting community agencies to develop web-sites, and communicate with each other, and other sectors, with greater efficiency and effectiveness.

This study suggests that neighborhood organizations should work aggressively with public schools in the area of computer and information technology. Note that one of the most interesting findings is that many adults in the target community learn about computers and information technology through the exposure of their children to such, in public schools. The findings reported here show that the linkage between public schools, community based organizations, and the general public is a vital one in expanding access and broad understanding of computer and information technology.

The above are suggestions for further planning are based on a limited study. There is great need to expand research and evaluations regarding access to computer technology and the information superhighway. The survey conducted by the Trotter Institute, as well as targeted focus group activities, should be replicated on a wider scale. Despite the call for more research and evaluations, however, we can conclude by reiterating that the findings of this exploratory report point to a critical need for expanding access to computer and information technology in the inner cities. Responding to this need, however, must include the development, and utilization, of appropriate strategies, tools, and organizations, to implement plans for expanding access.

Notes

[1]Louis Harris & Associates, Inc., "The Harris Poll 1994," #55, September 5, 1994.

[2]EPM Communications, "Minority Markets Alert," Vol. VII, No. 7, July 1995.

Empowering Communities of Color Through Computer Technology

by Michael Roberts

As we hurtle towards the 21st century, an increasing number of individuals start to realize that the ability to use computers and information technology resources effectively will determine how well individuals, organizations, and communities function in a rapidly changing technological society. Numerous studies, including one conducted in the Summer 1995 of Boston's Black community by Freedom House and The Trotter Institute, and highlighted in this issue, have documented the need of Americans—students, workers, unemployed, youth, adults and senior citizens, to become knowledgeable and proficient in the use of computers and information technology. There are several questions that do face communities of color, in particular: Why is there such a low distribution, in comparison to more wealthy communities, of up-to-date computers and information technology resources in inner city and minority communities? What role does one's race, gender, age, class, education, residence, and employment status play in their ability to access, and use computers and information technology resources? How does a community's socio-economic, racial, cultural and linguistic make-up affect its ability to learn about such technology for its own development? These are valid questions which are fundamental for understanding the relationship of access, technology, and democracy. The purpose of this essay is to summarize some of the practical, day-to-day challenges faced by individuals and organizations—specifically within communities of color in gaining access to, learning about and utilizing computer technology for personal, professional, and community empowerment.

Lack of Access to Computers

The phrase "lack of access" is frequently used in describing the relationship between communities of color and computers and information technology. Nevertheless, a closer look should be taken to the term "access." One could argue that the lack of computers and information technology resources in inner city schools, homes, neighborhood organizations and businesses simply mirror the long existing shortage of other vital resources in poor and inner city communities such as, adequate health care facilities, jobs, job training programs, day care centers, housing, schools, and police services. While it is a part of the problem, the issue of getting more communities of color to equally gain from the benefits of computers and information technology, is much more complicated. "Access," according to The Random House Dictionary, is defined as "Ability or permission to approach, enter, speak with or use;" as in "They have access to the files." The key part of this definition is "ability to use." This speaks directly to having the knowledge (literacy) and the skills (proficiency) to use a computer properly to perform specific tasks such as, locating a file on a computer's hard drive, editing a report, saving it and making a back-up copy on a floppy disk (after formatting the floppy disk), printing a copy of the report, and using the computer's modem to send a copy of the file, via electronic mail, to several people across the country or in the community.

Gaining proficiency with computers (and therefore full access, in terms of the "ability to use") is a multiple, often difficult and frustrating process, for both individuals and organizations. This process involves:

1. receiving initial and proper orientation and training about the capacities of the computer; how it functions; and, how to use specific applications;
2. having mentors or individuals, after the training, to answer questions when and if problems arise with the computer, software or printer;
3. establishing physical access to a functioning computer (at work, home, or a community-based computer technology center) to practice and experiment several times a week;
4. acquiring strategies to learn new computer-related skills (new applications or new features in a current one) on one's own after the initial training;
5. allotting time to have consistent practice working on the computer; and,
6. creating the desire or motivation to learn to use a computer effectively.

Based on the above, it may be clear that the issue of access to computer technology involves the presence of other factors, such as appropriate training, technical

support, access to a computer, and allotted time to use it. The existence of these other factors are, in many cases, lacking in inner city homes and organizations. We must add that individuals, families, and organizations must also have sufficient knowledge and monetary resources to ensure that the computer systems they acquire actually meet their current and future needs. Several observations come to mind concerning these intricacies of the computer and information technologies as it relates to communities of color.

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Computers: Powerful and competitive market forces are driving computers and associated software to be consistently and rapidly updated and more powerful and faster. While the prices of computer systems continue decrease rapidly as new models come to market, the simple fact is that even these cheaper computer systems are still by and large unaffordable for most people, especially individuals in poor and inner city communities. Multimedia computers with the capacity to integrate text, sound, graphics, animation and full motion video that come equipped with fax modems and CD-ROM drives are the current state of the art and cost about $1,400. Once a person adds a very low cost printer and a few basic software applications, the total bill quickly jumps to over $2,000. Depending on what other features the systems have, the price can easily double. If access to the Internet or a commercial information service like America On-Line, Compuserve or Prodigy is desired, additional monthly costs will be incurred. The February 1995 issue of *Interactive Consumers*, a monthly primary research report of FIND/SVP, states, "today's average $1,600 home computer investment undoubtedly continues to pose a real spending hurdle for households constrained by other demands on disposable income."[1]

The term "user friendly" is frequently attached to the new generation of personal computers on the market today. Computers are easier to use than in previous years, and their documentation is more clearly written. At the same time, computers are still not as easy to learn or to become proficient with, as computer manufacturers and mass advertising would want the public to believe. The term does not apply to first time users, who bring no point of reference to dealing with computers, but rather to current, experienced users of computers. Apparently in recognition of this reality, the previously mentioned publication, *Interactive Consumers*, has supplied statistics which purport to show that for the foreseeable future (10 years) the vast majority of consumers (identified as those with annual incomes below $40,000), "...have little interest in high-level information services, either from the PC or the TV. They have less use for information in general and are less cognitively able or willing to pay for advanced tolls or appliances to manipulate it... Such consumers will be more interested in using low level interactive media such as video on demand and custom program listings."[2] By contrast, this same publication believes that families with incomes over $50,000 will be the favored targets of high level information services, multimedia computers and software marketing.

The rapid changes and advances in computer systems and software means that people and organizations have a confusing plethora of choices to make when purchasing computer systems. The question that is often asked prior to making a commitment to purchase a computer system is: Will my investment be obsolete in one or two years? Such a question is not easily answered. For an inner city organization, the question takes on even more weight. Upgrading systems means applying scarce resources for training people to use the new systems or software and reconfiguring old systems and files to integrate with the new technologies.

People: Parents, business individuals, teachers, ministers, students and the unemployed in poor and inner city communities know that computers are the wave of the present and future. They want to learn about them because they might be able to get a better job. In many instances, they are not sure where to begin or where to go for information. Interestingly enough, many people's knowledge of computers goes slightly beyond word processing, data entry or games. The vast majority of adults who took the computer courses I conducted while working in Boston were women, unemployed, and openly afraid of taking a computer course for the first time. They had been made to believe that computers would be difficult to learn or they had a bad experience with a previous instructor.

At the other extreme, there are pockets of highly-skilled individuals of color who work in the engineering and computer science fields or professors and students. Many in this almost hidden (but not silent) group are eager to give of their expertise to inner city organizations that want to introduce computers into their environments. The problem is that many of these individuals work outside communities of color and are not sure where to find those agencies in the community that are in need. This group is a valuable resource just waiting to be tapped.

Organizations: Community-based, non-profit human service organizations that operate in communities of color are struggling to take advantage of computer technology with often little in-house resources or knowledge of external, affordable technical assistance to help them. Not having the funds, most non-profit organizations get their computers through donations from foundations, computer companies or from large businesses and organizations that are discarding old systems in preparation to upgrade to new ones. This has often resulted in several serious problems for the receiving organization:

1. Non-profit community-based organizations end up with a variety of old computer systems, printers and software thrown together with some new systems that are often incompatible with each other, and are in

various states of functioning and use.

2. Organizations in poor, inner city communities have become the "dumping ground" for old equipment, frequently in poor condition, in the guise of donations from companies. The community organizations often do not have a person on staff with sufficient computer background to ask specific questions of a donor regarding the types of computers being donated and their capacities and conditions. Frequently, the individuals who represent donor companies do not themselves know the capacities of the computers they are trying to donate.

If an organization is fortunate enough to actually get brand new or fairly current computer systems and software, their problems are just beginning. If the organization receives these systems through donations (as is usually the case), they are then left on their own to set up those computers and install the software. If the computers are to become networked, the organization has to confront extremely technical and complex issues concerning the type of network software and physical cabling to use; how systems will be configured to ensure security; how staff will be divided into workgroups to share information on the network; how the network will be managed on an ongoing basis; and, who should be trained to use the systems.

The challenges of integrating computers into an organizational setting are generic to all types organizations, whether they are big or small, for profit or non-profit, are in the public or private sector or located in inner city communities or in affluent areas. The reality is that few inner city non-profit community organizations have the people or financial resources necessary to acquire current computer systems and software. Those select few organizations with the financial resources (or the ability to obtain grants) and an appreciation of what it takes to integrate computer technology into an organization have in-house departments with trained staff to maintain computer systems and networks as well as train and support staff to use them.

There is another point which is not often discussed in the process of integrating computers into organizations; i.e. the necessity of radically changing how staff perform various administrative functions such as, prepare reports and proposals, and create and maintain client records or lists. For organizations with no prior history of using computers, and as we see, many organizations in communities of color fall into this category, the change is nothing short of a cultural upheaval.

Staff persons are being asked to use a new technology (change their ways of doing things) which might or might not be properly installed on which they might or might not have been adequately trained. Out of necessity, staff persons and entire organizations go through a period of confusion (meaning the agency's efficiency suffers) where two administrative systems (one non-computerized, one newly-computerized) unhappily co-exist. Depending on the quality of technical support and executive leadership brought to bear to anticipate and address this stage of organizational change and stress, many organizations, departments within organizations or individual staff never fully recover to adopt the new computer systems.

Community-Based Computer Technology Initiatives: Two Examples

In 1985, Freedom House was the recipient of a major, unsolicited computer equipment grant from a local computer company. Over the next ten years, the organization hired a training/technical staff, received additional monetary grants and equipment, sought out volunteer expertise in computers, and developed relationships with groups interested in helping inner city communities use computer technology. Freedom House created an education and technology unit which was responsible for:

- Ensuring that all program departments and staff were trained and supported in using the computers;
- Designing and implementing a computer instructional component in all youth and adult programs in the organization; for example, using computers as a means of enhancing students' academic skills;
- Creating and offering a variety of computer courses to community residents and staff from area agencies and businesses;
- Serving as a major community access point for individuals and organizations to come to learn about and use computers.
- Providing technical assistance to local agencies interested in introducing computers into their organizations.

Success over this period was due, in large part, to:

- Strong leadership from the organization's executive director in conveying to the staff the importance and the benefits of learning and using computers;
- The existence of a strong technical staff that designed and clearly articulated to other staff and agency administrators a plan for integrating computers into the organization and how Freedom House could play a leadership role in providing computer technology resources in the community;
- The technical staff continually sought out those with computer skills interested in helping the organization while also upgrading its own computer knowledge through books, joining user groups and attending conferences;
- Implementing an ongoing computer training and technical support program for all agency staff.

In 1994, United Neighborhood Houses of New York City, a non-profit umbrella organization of 37 neighborhood settlement houses received a one year $700,000 grant from the federal government to develop, operate, and maintain an integrated information system through a wide area network that links the social service programs and computer systems of five settlement houses; and provide them with access to Internet services. IBM donated close to $1 million in computers for use in the

settlement houses to be used with $800,000 in software donated by Microsoft. Despite this massive influx of money and equipment, this ambitious five year Information Technology Initiative Project is currently struggling with the following issues:

1. the difficulty of securing additional funds beyond the first year to match its projected five year budget;
2. overcoming numerous bureaucratic difficulties and delays in installing and configuring the computer networks at each settlement house;
3. determining how the settlement houses will financially support their new computer network systems and train staff to effectively use it;
4. assessing the introduction of networked computers and an integrated information system into human service organizations can show increased efficiencies in the delivery of social services to residents, better administering of programs and improved productivity by workers.

Conclusion

The experiences associated with the cases of Freedom House and United Neighborhood Houses of New York City illustrate that individuals and organizations within communities of color across the country face many hurdles as they strive to acquire, learn about, use and benefit from computers and information technologies. Lack of resources, in terms of funds, experienced technical assistance, and trainers mean limited control over the kinds of computer systems individuals and organizations in communities of color can acquire and an inability to truly understand and thus take full advantage of whatever computer systems are obtained.

The joint Trotter Institute/Freedom House report described in the essay by James Jennings asserts that community-based organizations, educational institutions, businesses and donor institutions need to work together to develop new outreach strategies, programs, and funding mechanisms to ensure increased use, understanding of and access to computer technology by inner city communities.[3]

Community-based human service organizations play a vital role in the day-to-day life of inner city, urban communities. They provide a variety of needed education, health, housing, employment, recreation, information and referral and advocacy services for all population groups. If inner city communities are to catch up to speed with the rest of this country in fully utilizing computer technology, community-based organizations will have to become one of the focal points for introducing this resource in their community. Most community organizations are not prepared to play this role, and will need help.

At the same time, many exciting examples of community technology initiatives exist across the country that involve community organizations, colleges, public schools, businesses, libraries, foundations and local governments working together to bring computer technology into the inner city. The Freedom House experience, The Trotter Institute/Freedom House relationship and the United Neighborhood Houses project are live models proactively addressing these issues. It is important to know that for over ten years, there has been a growing push to create community technology centers in community agencies in urban areas nation-wide that provide computer facilities for residents to use and that offer low cost or free computer courses and workshops.

Such community collaboratives, however, have to be based on an equal partnership and mutual respect. Inner city community organizations have to challenge themselves to be proactive on several fronts to seek out ways to learn about computers and rapid changes in information technologies and be able to articulate how such resources can benefit their mission. Such knowledge brings credibility to their efforts (and discussion points) as they enter into collaborative technology ventures with other groups, request computers or ask for technical assistance in choosing systems.

Universities, businesses, and foundations need to look to community-based organizations in inner city communities as prime locations to support the development of on-site computer training programs and facilities that remain current with the changing technology.

The task ahead for communities of color to fully acquire and use computers and information technology will not be easy. Computer technology and the resources of the highly touted information superhighway are not standing still, nor are those communities and individuals who are serious about harnessing it. However, enough examples exist that show that those of us who work in and with communities of color do not have to be (nor can we afford to be) on the sidelines watching and waiting.

Notes

[1]"PC or TV?", *Interactive Consumers*, Vol. 2 No. 2, February 1995, 2.

[2]Ibid, p.6.

[3]James Jennings (Ed.), *Computer Technology Utilization Survey*. (Boston: The William Monroe Trotter Institute/University of Massachusetts Boston and Freedom House, 1995).

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The Power of Information and Communities of Color

by Lana W. Jackman and Patricia C. Payne

Lana W. Jackman

Patricia C. Payne

In this age of the Information Superhighway, access to information has become a "human rights" issue for communities of color. Access to information is the backbone for economic growth in the world marketplace. Information literacy, the ability to find, evaluate, analyze, and use information effectively is the currency of infinite power and control of one's economic, social, and political destiny. For communities of color to gain access to this phenomenal communications/technological revolution, there is a need to become information literate.

The scramble in the information and communication industry to monopolize the development and dissemination of new technologies demonstrates the high value placed on dominance of the access channels to information. Other than in response to the entertainment factor, i.e. video games, communities of color remain relatively oblivious to the profound, revolutionary impact of the Information Age and its effect on capacities to enhance their social, political, and economic status.

While attention focuses on the media-hyped benefits of the new technologies, access to information in the world marketplace continues to be customized by visionaries who have gone way beyond being charmed by its bells and whistles. In his book *Creating a New Civilization: The Politics of the Third Wave*, Alvin Toffler observes:

> Today we are living through one of these exclamation points in history when the entire structure of human knowledge is once again trembling with changes as old barriers fall. We are just accumulating more facts. Just as we are now restructuring companies and whole economies, we are totally reorganizing the production and distribution of knowledge and the symbols used to communicate it.[1]

These visionaries, the gatekeepers of industry, government, and education, are methodically staking out their information-based power turfs. Efforts by these gatekeepers are underway to design an exclusive communications reality for the 21st century. For example, in 1986 the Cleveland Freenet, a free, open access community computer system was established at Case Western Reserve University. Its chief architects were "doctors, lawyers, educators, community group representatives, and hobbyists" concerned with community access to the Information Superhighway.[2] The entrepreneurial and technical skills necessary to participate in this type of "free" computer network system are not common among communities of color. Systematic representation from communities of color is barely visible in this new, information revolution.

Historically, communities of color have been peripheral to the evolution of technology. This chronology highlights economic, social, and educational influences that have paralleled technological development over half a century.

Dateline: The Age of Information

The following chronology suggests the important events influencing the development of information literacy and its relationship to Communities of Color:

1940's

- Computer developed for military and scientific research purposes only.
- G.I. Bill of Rights broadened public access to post secondary educational opportunities.

1950's

- Television captures America's attention and imagination.
- *Brown v. Board of Education* legalizes the colorization of American education.
- Urban (ghettos) vs. suburban (white flight) societal issues begin to take center stage.
- The launch of Sputnik challenges and threatens the mind of American education.

1960's

- Marshall McLuhan's "the medium is the message" resonates throughout the American fabric.
- Johnson's "A Great Society" intensifies education's quest for equal opportunity and access.
- ARPANET (United States Advanced Research Projects Agency Network), the pilot INTERNET project is born.
- American society is overwhelmed by the heat of social upheaval and discord; height of the Civil Rights Movement.

1970's

- The birth of the personal computer, Apple, Inc. and IBM, revolutionizes "how business is done" and begins its penetration of the conservative education market.
- The reliance on electronic media by the American public for news and information intensifies.
- The Middle Income Student Assistance Act represents a dramatic shift from the end to the middle of the public's attention regarding the distribution of wealth and America's resources.

1980's

- The INTERNET moves from its embryonic stages into its childhood period; the National Science Foundation (NSFNET) absorbs ARPANET and becomes the backbone of the INTERNET.
- America's educational report card—*A Nation At Risk: The Imperative for Educational Reform*—forecasts a bleak future for the educational growth of American manpower.
- The global village begins to take shape with such events as the downing of the Berlin Wall and the break up of the Soviet Union.
- The American Library Association (ALA) commits itself to the promotion of "Information Literacy" and mobilizes librarians across the nation to become educational leaders in the Information Age.

1990's

- INTERNET growing by leaps and bounds; concern mounting over an impending schism between the "haves and have not" of the technological revolution. Access becomes a key social issue.
- Congress creates the National Research Educational Network (NREN), a network infrastructure also known as the Information Superhighway.
- The Gulf War dramatizes the enormous power of electronic media and its impact on all levels of society.

Contemporary issues of access to information bring to mind a prediction made in the early 1970's by the prominent Black educator, Dr. Samuel Proctor. He gave the keynote address at the First National Meeting of Black Students at Predominately White Institutions of Higher Education at MIT. Proctor predicted that if we continued to deal superficially with our educational, social, and political realities and, not only develop, but challenge our intellectual capacity as a people, then look for us to continue to perpetuate our historical legacy as "the bus boys and bus girls of the new space motel in the 21st century." In effect, Dr. Proctor was addressing the issue of empowerment and the need for communities of color to understand that access to *information* is access to *power*.

What does access to information actually mean for communities of color? Why is it so important for communities of color to understand the critical implications of failing to participate actively in this on-going technological revolution? Educator Dr. Lisa Delpit observed, "Let there be no doubt: a 'skilled' minority person who is not also capable of critical analysis becomes the trainable, low-level functionary of dominant society, simply the grease that keeps the institutions which orchestrate his or her oppression running smoothly."[3] Is it the destiny of communities of color to perform as low-level functionaries in this Age of Information as prophesied by Dr. Proctor? At the moment, failure by communities of color to view the ability of thinking critically as paramount in the teaching/learning process portends no other alternative. Until the development of high level, critical thinking skills become central in the minds of those engaged in the teaching/learning process, communities of color will continue to participate in this consistent progression of their oppression.

Historically, communities of color have been peripheral to the evolution of technology.

As we move toward the end of this century, communication technologies embodied in telephone, television, computers, cable, and satellite systems will continue to evolve at a rapid rate and contribute significantly to the vast proliferation of information. In order to sustain even a moderate level of economic success in the next century, an individual must become informationally literate i.e., read, write, think critically, and be technologically literate. Communities of color need to embrace the skills of information literacy for the purposes of life-long learning and economic security. Current research exposes the failure of our educational institutions to focus on the development and integration of these crucial literacy skills in communities of color.[4]

> We believe, in these critical times, that "..... a critical thinker who lacks the 'skills' demanded by employers and institutions of higher learning can aspire to financial and social status only within the disenfranchised world. Yes, if minority people are to effect the change which will allow them to truly progress we must insist on 'skills' within the context of critical and creative thinking."[5]

"Information access, or information literacy, to use the ALA term, will be so vital for the growing cadre of knowledgeable workers and professionals in the coming century; consequently, the challenges information technology poses cut across all academic disciplines and all occupational and professional fields."[6] One must keep in mind that this technological revolution is a world wide phenomena, and one of the major access points to this information is the library. From K-12 to post secondary education, libraries and their media centers are often treated as peripheral to the dynamic of the teaching/learning process. In the United States alone, there are 119,030 libraries of which 92,628 are elementary and secondary school libraries and 4,914 are junior

college/college and university academic libraries. As a result, educational institutions of all types, residing within communities of color, need to be engaged in developing active instructional partnerships between their libraries and our communities. Librarians, as educators, are the informational professionals in this country and many are actively engaged in changing how American society views their role from that of information keeper to that of information provider and educator.

In 1989, the Presidential Committee on Information Literacy of the American Library Association committed itself to promoting information literacy as the vehicle for enhancing the quality of life-long learning for every American. Information literacy is going to require from those of us in education a re-evaluation and subsequent alteration of the teaching and learning skills of all educational professionals. This re-evaluation is critical for ensuring that communities of color have access to the technologies necessary to enhance their information literacy skills. Higher education trains our teachers and trains our librarians. Consequently, it remains one of the major gateways for communities of color to become actively engaged in this exciting, technological revolution. As reported by Lenox and Walker in their article, "Information Literacy in the Educational Process":

> To prepare the leaders of tomorrow, librarians, teachers, resource specialists, and educational administrators of today must teach students to become critical thinkers, intellectually curious observers, creators, and users of information, and citizens who routinely have the desire to know, who know how to access information (yet challenge its validity), who seek corroboration before adopting information, who understand the political, social, and economic agendas of information creation and dissemination and who constantly see, re-see, and re-form information to meet their needs for problem solving and decision making.[7]

Clearly the untapped, intellectual talent of communities of color can be unleashed with the dedication to redesign the core of 21st century educational philosophy; and focus its foundation on the development of higher order critical thinking skills. Higher education institutions, serving as a major gateway to the age of Information Superhighway, must re-examine their educational missions and must be proactive in their efforts to advance the cause of information literacy in communities of color.

Notes

[1]Alvin Toffler and Heidi Toffler, *Creating a New Civilization: The Politics of the Third Wave*. (Atlanta: Turner Publishing, 1994).

[2]T.M. Grundner, "Free-netting: The Development of Free Public Access Community Computer Systems," *Library Perspectives on NREN*. (Chicago: American Library Association, 1990).

[3]Lisa Delpit, "Skills and Other Dilemmas of a Progressive Black Educator," *Harvard Educational Review*, November: Vol. 56, No. 4, 1986, 379-385.

[4]Kofi Lomotey (Ed.), *Going to School: The African-American Experience*. (Albany: State University of New York, 1990). See also Scott L. Miller, *An American Imperative: Accelerating Minority Educational Advancement*. (New Haven: Yale University Press, 1995) and National Commission of excellence in Education, *A Nation at Risk: The Imperative for Educational Reform*. (Washington, D.C.: U.S. Government Printing Office, 1983).

[5]Lisa Delpit, "Skills and Other Dilemmas of a Progressive Black Educator."

[6]K. Green and Stephen Gilbert, "Great Expectations: Content, Communications, Productivity, and the Role of Information Technology in Higher Education," *CHANGE*. March/April, 1995, 8-18.

[7]Mary Lenox and Michael Walker, "Information Literacy in the Educational Process," *The Educational Forum*, 57(3), 1993, 312-324.

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Frameworks for Evaluating Technology Transfer

by Saskia Wilhelms

The Necessity for Frameworks

Technology can help us to keep air and water clean, to educate ourselves and others, and to make our lives more comfortable. Technology, however, has in the ears of many, a threatening ring. Whether technology serves human well-being depends on its usage. Dust-covered computers, abandoned factories, underutilized hospitals, chemical plants polluting our environment, nuclear power threatening our health—negative instances of technology application abound. To obtain greater positive results, technology has to be applied and transferred according to criteria that enable us to assess potential benefits and risks associated with the technology. Technology transfer includes tangible and intangible assets, such as computer chips and the knowledge transferred by exchange students. Simon defines the globalization of technology as "the development and diffusion of critical scientific knowledge and technological capabilities beyond the borders of a limited number of so-called advanced nations."[1]

Too often those in charge of technology transfer are led more by shortsighted motives, such as national, corporate, or individual prestige, rather than by a long-term development oriented approach. In order to induce responsible technology transfer, one has to establish a framework according to which one examines possibilities for technology transfer, and then select the most appropriate options for a given context. We need theoretical frameworks to analyze technology transfer, and screen it according to its potential use and likely impact within a given environment. This essay emphasizes constructive approaches that can provide communities with a framework to arrive at informed decisions about technology in their midst. Communities in the United States are not alone in making important policy choices, and we can learn from other communities—be they villages or nations—from all over the world. In order to highlight power balances that exist both domestically and internationally, special attention will be paid on how to make technology transfers a win-win situation for all parties involved.

Toward a Constructive Framework: Analyzing Appropriate Technology

When evaluating transfers under the premise of utilizing technology to make life for human beings around the globe more worthwhile, neither the usually adopted stances of polite neutrality nor ideological blinding contribute constructively to the debate. What is needed are positions that evolve dynamically in exchange with others, and that are laid open when discussing technology. The notion of appropriate technology implies that it has to be adapted to the circumstances under which it is supposed to operate. By the same token, the community needs to be able to absorb the technology. In cases where absorptive capacity is lacking, technology is not exploited to its full and positive advantage. In extreme cases, it may sit idle and just rot away, if it is a tangible item. A common example from the early period of modern technology transfer is the one of tractors in the former Soviet Union, Latin America, and Africa, which rusted unused due to an insufficient supply of spare parts. We find other cases of underutilized technology in everyday life; thus, can you name the function of all the keys on your stereo? Do you need that high-powered car to see your friend just around the corner? How many applications of your computer program do you employ?

Some of the most decisive technology transfers happen in the form of know-how, for example through academic exchange and job training. We all know (and excuse) the underutilization of our minds, of computers, and of cars. After all, these are items from largely individual contexts, so we are free to decide on how far we exploit the capacities of these personal items. The problem assumes a more serious nature when it comes to the utilization of common goods, such as government education, scientific research, and national defense. Both through our tax dollars and the goals for ourselves and families, we have a personal stake in those technologies, while our influence is in most cases only indirect; for example, through voting and grassroots initiatives. More often than not, reverting to appropriate action is complicated by our lack of knowledge about the technology. In these cases, we could expand our absorptive capacities. At the very least, we have to know the origin, use, and potential implications of a technology that is going to be transferred into our or another community (a dichotomy between "us" and

"them" does not really exist anymore, taking into account the global character of outcomes of technology transfer such as pollution, but also human suffering which has, or should have, universal appeal). Then, we need to be able to refer to a framework within which to evaluate the technology in its future context.

Very often, however, failures in technology transfer are not due to a lack of absorptive capacity. Rather, they occur due to a lack of concern for the particular circumstances in which technology is to be applied. An infamous example of an absence of case-specific contemplation is a project carried out by the German technical cooperation with the Ivory Coast, which aimed at achieving more competitive prices for beef. Traditionally, the animals were being driven to the coast where they were slaughtered before shipping their meat through the coastal infrastructure. In order to halt the loss of the cows' muscle and fat tissue due to their walking all the way to the coast, a slaughter house was erected in the country's interior, close to the cows' pastures. The building posed a technological model of the ideal slaughter house. It conformed to all engineering standards up to the norms of its nuts and bolts. It was exemplary from the foundation to the snow-proof roof. But, snow-proof roof in a West African country?

Yes, the German engineers and agricultural specialists had conscientiously transferred their technology. They even provided refrigerated trucks to transport the beef to the coast. What they had not taken into account was the might of the tropical sun compared to that of Western Europe. Due to the Ivorian climate and roads, the trucks needed maintenance sooner than expected, but there were no spare parts available. Needless to mention, the transferred technology, perfectly appropriate in the West European context, was a failure when put to the test in West Africa. It is indispensable to go beyond the narrow framework of individual disciplines, in this instance engineering and agronomy, in order to employ and apply technology effectively and efficiently in a given environment. The fact that all too often technology is not adapted to the realities in the southern hemisphere reflects the global imbalances in resources, and in expenditures used for research and development.

The lack of economic and political clout presents developing countries from getting their share of the global technology pie, which is largely distributed via technology transfers. This further limits their influence, because in order to attain regional and global leverage, a nation needs to offer something that makes it attractive to others. The worldwide distribution of research and development facilities, an important indicator for technological prowess, has improved only marginally from the early 1970s when less than three percent of global research and development expenditures were put forward by developing nations.[2] In today's global marketplace, a country receives more recognition if it is a worthwhile spot for investors, of course. Many developing economies urgently needing investment, lack the infrastructure to attract it. Ghana, for example, loses annually billions of dollars in foreign direct investment due to its poor communication infrastructure.[3] Potential investors leave the country in droves after they pick up the receiver to place a call and find themselves either not getting any line at all or shouting into the phone due to bad transmission.

Many developing economies urgently needing investment, lack the infrastructure to attract it.

Alternative sources of energy are another instance of technology adapted to local circumstances, involving more modern and advanced technologies than those most widely used. Distributing electricity via cables from a central power plant is cheap and efficient in most industrialized nations due to a pre-existing and well-maintained network. In many countries in the southern hemisphere, it is more cost-efficient to supply electrical power through solar energy than to install an electricity network and wait until it has amortized itself. Solar technology has so far been produced in industrialized countries, for example by Enron in the United States and Siemens in Germany. Since the assembly of the photoelectric panels is fairly labor-intensive and does not require much training, it could easily and profitably be outsourced to developing economies. Ideally, solar panel plants would be located in countries that produce major ingredients to the panels such as copper, namely Zambia, Zaïre, and Chile.[4] The countries to which the technology is transferred could—in addition to the benefits of the transfer itself that include knowledge about a starter technology with immense potential—gain from tax generation, employment creation, intersectoral linkages, value-added to raw materials through a high-earning industry, and opportunities on domestic and export markets.

These examples point to the fact that the notion of appropriate technology in its twisted version only serves companies in industrialized countries to dump their outmoded technology onto markets in the southern hemisphere, rather than to advance the latter's development. The foregoing cases do demonstrate that there is more reason for optimism for developing economies than often assumed: a decisive factor in Japan's and Germany's current economic might is the depletion of their industries due to the reparations they had to pay for their crimes against humanity during World War II. The necessity to start from scratch caused them to acquire the most advanced technology once they had regained some financial liquidity, and thus overtake the war's victors in the ensuing technological and economic race. At the same time, one has to stress that Germany's and Japan's technological, and therewith economic and political ascendancy was based on former strength in these areas, and was accompanied by strong emphasis on human capacity building. Many African regions can likewise look back on a tradition of ingenuity and

technological achievement, although it had been interrupted through colonialism.

From Appropriate to Holistic Technology

The theorem of appropriate technology states that a technology needs to be adapted to the circumstances in which it is to be applied. The nation, community, company, or individual must be able to absorb the acquired technology, that is, handle it in an apt manner and thus assume ownership of it. This involves applying technology to the particular circumstances under which it is needed. The theory of appropriate technology is sometimes misunderstood as implying the simplest technology. This idea still reigns the heads of those concerned with technology transfer, particularly in industrialized countries. Appropriate technology, however, means the best adapted technology. Equating this automatically to unsophisticated technology reflects the presumptuous mindset of planners in industrialized countries rather than the actual condition of education in industrializing economies. Certainly, in developing nations there often exists a critical lack of financial resources, spare parts, and training opportunities. That, by any means, forces technicians and entrepreneurs to be more creative and proactive in finding alternatives. These alternatives in many cases involve leapfrogging over conventional models still widely used in so-called industrialized countries: "the more stringent the criteria, the higher the level of technology needed to resolve a given problem."[5] This is really the theory of appropriate technology in its purest conceptual sense. Kodama calls it "holistic technology." Holistic technology employs "autonomous, decentralized systems" that are adapted to the fragmented infrastructure in developing countries. This is where those involved with technology have to take a stance: spreading the theory of holistic technology and continuing to put it into practice opens multiple highways to development.

One of the most important implications would be, if coupled with adequate financial resources, an eventual reversal of the flight of highly qualified scientists and engineers from developing economies. They would be induced to stay or return if they were presented right in their home countries with the intellectual challenges they are ready to tackle.

One of these challenges includes the provision of power and the conservation and storage of food. Although Kodama clearly points into the right direction with his definition of holistic technology, he goes off the deep end in his enthusiasm for what is technologically feasible. He cites the radiation of food to retard spoilage as a positive example for holistic technology.[6] Experts must not fall into the trap of what I term "scientific fallacy": to carry out what seems scientifically doable, even though ethically undesirable. Considering that radio-chemistry of food is by no means proven as healthy for humans, we have to be on guard against attempts to use underprivileged populations as guinea pigs. This of course is one of the drawbacks of the newest technology: it is not always in all aspects proven to be safe.

Nonetheless, technology transfers are often welcomed because they overcome practical constraints that severely inhibit social, political, and economic development. In the case of cellular telephones, for example, many decide the trade-off between possible health risks and the necessity to communicate in favor of the latter, especially where no viable alternatives are available. In Ghana the complete inadequacy of the public telephone system ensures spectacular success for two mobile phone companies that have been allowed to operate in the country in the course of the structural adjustment's divestiture and dismantling of monopolies. The problems associated with maintaining a cable network of telephone lines have prompted experts to speak out against AT&T's plan to surround the African continent with telephone cables, on the grounds that the corporation strives to create a monopoly for itself while capturing the diminishing returns from the last phase of the cable's product life cycle. In addition, positioning a cable around the continent would aggravate the problem existing since colonialism of having infrastructure point into and out of Africa, without connecting African nations among each other. Callers from francophone West Africa, for example, find it easier to get through to Paris than to neighboring anglophone countries.

Instead of exacerbating persistent shortcomings, it would be more appropriate to employ holistic technology, technology that is adapted to the factors under which it operates. Holistic technology bridges current shortcomings and leads to new opportunities. Satellites for global communication networks are an illustration of holistic technology. This is why the international struggles for the most advantageous satellite positions in the ether were carried up to the General Assembly of the United Nations. Not surprisingly, the financially better endowed nations of the north won out. The limited access to satellites is one of the causes for the phenomenon of information poverty in the southern hemisphere.

A means to overcome "information poverty" is to switch to advanced technologies adapted to the given constraints, which again points to holistic technologies. Physicians in western Zambia, for example, obtain specialist advice over e-mail, while health workers check via e-mail what drugs are available where, thus saving transaction costs in the form of communication and transport expenditures. Instead of reaffirming one-way communication and power imbalances, modern technology may be effectively utilized to bring north and south together. In the global market place, farmers in developing countries can sell their commodities directly to consumers all over the world, thus avoiding to pay transaction costs to traders. Centers for technology communication can be located in communities, such as the recently mushrooming bars with access to the Internet, or, on a wider scale, in countries as a whole. Singapore is an instance of a nation which presents itself as a middle office between developing and industrialized nations. Singapore offers to fulfill a broker function, with northern countries outsourcing work to her, and her subcontracting

to developing countries.[7] Such a gateway-position is a potentially powerful one, not only technologically, but also economically and politically.

In today's increasingly interconnected world, technological frameworks have to be contemplated under inclusion of political and economic realities.[8] This holds a lesson for countries (communities, companies) still stemming their feet against the tide of technological transfers. Imposing regulatory, economic, and political obstacles means incurring an unreasonable amount of opportunity cost upon one's administrative and monitoring institutions, a strain on budget and human resources which shows particularly in developing economies.[9] Since processes of technology transfer are multidimensional, regulations cannot effectively prevent them from taking place in any event.[10] People who have set their mind on bringing in some undesired technology will still do it, while the nation misses out on the opportunities that come with early technology transfer.[11] The immense direct and indirect costs associated with controlling technology would be more wisely spent managing it under anticipation of trends that can be beneficial to the domestic economy—vital especially in countries pursuing structural adjustment—as to global growth and technological advance.

Notes

[1]Denis Fred Simon, "International Business and the Transborder Movement of Technology," *Technology Transfer in International Business.* (New York and Oxford: Oxford University Press, 1991), 6.

[2]Jan Annerstedt, "Measuring Science, Technology, and Innovation," *Uncertain Quest.* (United Nations University Press, 1994), 96.

[3]Figure extrapolated from author's field research in West Africa, May-September 1995. Although top officials of Ghanaian government institutions now see the necessity of infrastructural preconditions to investment, implementation lags far behind their plans. This is because no means has yet been found to demonstrate potential benefits from the changes to those further down the hierarchical ladder, and results in persisting barriers to the transfer of technology and capital. The middle and lower ranks of customs, for example, ignore new legislation that permits the free movement of devices which serve educational and investment purposes such as computers. They see nothing wrong with unlawfully retaining laptops for months, until a bribe has been paid that amounts to the price of a new computer. Like Ghana, many societies in developing countries find themselves in a phase of transition, which splits companies and institutions in adherents of the old versus those of the new. Results of author's field research, observations made during "Investor Roadmap Workshop" at the Ghana Investment Promotion Centre, (Accra: 19-20 July 1995).

[4]William Moomaw, personal interview. (Medford, MA: Fletcher School of Law and Diplomacy, 17 October 1995). Information on the African copper belt in the atlas by Werner Hilgemann, Günter Kettermann, and Manfred Hergt, *dtv-Perthes-Weltatlas: Großräume in Vergangenheit und Gegenwart: Afrika*, second edition. (Darmstadt: Deutscher Taschenbuch Verlag, and Justus Perthes, 1984), 26-27.

[5]Fumio Kodama, "Emerging Trajectory of the Pacific Rim: Concepts, Evidences, and New Schemes," *The Emerging Technological Trajectory of the Pacific Rim.* (ME Sharpe, 1995), 31.

[6]Ibid.

[7]BBC on National Public Radio. (17 October 1995, 22:37 United States Eastern Standard Time).

[8]The author of this article is concerned with alleviating information poverty in the southern hemisphere. She is involved in building a network of practitioners and scholars on several continents who exchange information and work together on issues of development and technology. Anyone interested in exchanging ideas should contact the author.

[9]Thomas Lee and Proctor Reid (Eds.), *National Interests in an Age of Global Technology.* (National Academy of Engineering, 1991), 52. See also Denis Fred Simon, "International Business and the Transborder Movement of Technology," *Technology Transfer in International Business.* (New York and Oxford: Oxford University Press, 1991), 17.

[10]David J. Teece, "The Market for Know-How and the Efficient International Transfer of Technology," *Annals of the American Academy of Political and Social Science*, (November 1981), 458:81-96.

[11]Those countries that innovate or first adopt a new technology are usually first in diffusing it and thus profiting from it. Kazmierz Z. Poznanski, "International Diffusion of Steel Technologies: Time-Lag and the Speed of Diffusion," *Technological Forecasting and Social Change*, Vol. 23 (1983):305-323.

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Democracy, Technology and The Civil Rights Project

by Ceasar L. McDowell and Marianne S. Castano

Ceasar L. McDowell

Marianne S. Castano

Democracy and Public Dialogue

Democracy has been defined as "a political system in which the whole people make, and are entitled to make, the basic determining decisions on important matters of public policy."[1] While the United States is often touted as the world's leading proponent of democracy, many U.S. citizens find themselves unable to engage in one of the central acts of democracy—creating public voice through public engagement. Public engagement in the United States is constrained by our inability to talk through our shared, complementary and divergent values. This lack of public engagement and our inability to speak in a "public voice" is also driven by a cultural tendency to reduce complex public issues to simple "for or against" policy positions. The process of building a public voice in the United States is further complicated by the vast racial, ethnic, linguistic and economic diversity, and the imbalance of power that exist among these separate sectors of our society.

The history of this country is replete with the struggles of people to overcome these power imbalances and create opportunities for their voices to become an integral part of the public voice. But, as the 21st century approaches, these same citizens find themselves on the brink of a new battle over citizen participation. This battle is being defined around access to and use of technology. Currently, most Americans are merely bystanders watching the rapid advances in technology shift the political, economic, and social terrain in which their viability as citizens is being determined. For members of the African-American community, and indeed for all communities of color and for economically disadvantaged communities, their ability to participate as "equal" citizens will now, in part, depend upon their ability to shape the technological world that is redefining the concept of public discourse and public involvement in the political process.

It is in response to these changes that early last year, The Civil Rights Project, Inc. (CRPI) of Boston, Massachusetts undertook, as part of its mission, to inform, educate and expand our society's capacity to promote democracy and social justice in a technological age. Established in 1985 as the non-profit educational partner of Blackside, Inc., producers of award-winning historical film documentaries such as, *Eyes on the Prize*, *Malcolm X*, *The Great Depression*, and most recently *America's War on Poverty*, CRPI's early efforts concentrated in grants management, education, and archival work for Blackside. With this new effort CRPI seeks to provide opportunities for the American public to deliberate on policy issues that affect our lives.

CRPI has initiated several projects to encourage and facilitate public dialogue and community discourse on issues of major, national concern which include: The Public Dialogue Initiative, The Community Technology Study Group, and The National Identity Project. Each of these projects seeks to promote opportunities for people of color, the economically disadvantaged, young people, and those least often heard to effectively enter into, participate in, and shape our current public dialogue and political debates. In each of these projects, technology based on the information superhighway, plays a vital role in providing opportunities for engagement.

In developing technology-based projects we have learned that, for many organizations, both within and outside of these communities, discussions around and investment in technology are limited to providing community members with hardware and software; and in some cases the use of the Internet without serious attention to content. This attention to access is a reasonable goal given the way in which economics is driving the availability of the technology. But as we learned from the history of television, if we focus only on the delivery system (i.e., getting television sets and reception to all neighborhoods) we will not guarantee the development of content that will best serve all communities. We believe that content, what is learned and understood through the use of the technology, is as important as learning to use the technology.

Through our projects we hope that policymakers, advocates, and funders will increasingly support processes by which communities are able to affect content issues associated with the new information technologies. The three projects highlighted in this essay represent our preliminary efforts to address not only the access issue, but also the issue of content.

The Public Dialogue Initiative

In 1994, CRPI launched The Public Dialogue Initiative (PDI) which is an effort to use documentary film as a

basis for providing a historical framework for public dialogue on contemporary issues. Through PDI, CRPI/Blackside collaborate with national, local, and community organizations to hold public forums that coincide with the broadcast of documentaries that are designed as historically informed presentations on issues of national concern. These forums and dialogues are intended to provide a framework which allows forum participants from diverse sectors of society to deliberate on fundamental values that shape their understanding of a public issue.

We believe that content...is as important as learning to use the technology.

Blackside's most recent production, *America's War on Poverty*, provided a window of opportunity to engage Americans in important discussions about poverty. PDI presented a historical context for Americans to come together and strategize about the most pressing problems of poverty facing our communities. This effort, employed as part of *America's War on Poverty*, was comprised of 3 strategies: community, national, and technology. The community strategy, which encouraged the convening of local forums, was designed to lead complementary public action such as allowing opportunities for dialogue concerning pressing public issues. Through this effort, community-based organizations partnered with local PBS stations to hold forums in churches, libraries, and schools, and to produce special television call-in and radio programs, and youth videos, all focusing on poverty-related issues. The *national strategy* worked along with various national organizations to encourage their constituencies to promote a series of public dialogues within their communities and among members of other communities. Through both these strategies, the *America's War on Poverty: Viewers and Discussion Guide to the PBS Series* was distributed to individuals, organizations, libraries, media centers, schools and universities to support other dialogues throughout the country. Lastly, the *technology strategy* used communications technology to support and link these various public forums through the use of televised electronic meetings and electronic forums on the Internet, and information sharing via the World Wide Web (WWW.) The information superhighway not only provides people with an opportunity to engage in dialogue, it also serves as an information resource by providing direct access to print and other materials that CRPI creates to support public dialogue. For both the community and national strategies, technology played a vital role. Apart from providing participants with Internet and WWW access, CRPI also provided a toll-free information line.

Through these efforts community-based organizations created a variety of approaches for opening public dialogue. In Boston, Massachusetts, for example, The Boston Foundation's Persistent Poverty Project supported six community organizations representing the diversity of Boston's population (e.g., Chinese, Vietnamese, Haitian, Portuguese, Spanish, blacks, and Anglos) to hold forums among their constituencies. In these forums a cross-section of Boston's citizens discussed poverty in their neighborhoods and developed strategies for developing neighborhood-based response to poverty. In Anchorage, Alaska, the National Native News of the Alaska Public Radio Network produced an award-winning radio program, "Native America's War on Poverty," which used *America's War on Poverty* as an opportunity to tell the story of Native American poverty. The five-part national radio program focused on the historical causes of poverty in native communities and the activism that evolved in the 1960s. The Native American Broadcasting Association awarded this program with the Best News Reporting for 1994. This national radio call-in program reached more than 150 tribal and public radio stations from New York City to the Pine Ridge Indian Reservation in South Dakota. In Philadelphia, PA, The Philadelphia Foundation, in partnership with the Scribe Video Center and WHYY-TV, created an opportunity for six young people to produce a half-hour film entitled, "Youth in Action: Agents of Change." In this film they interviewed young people on their ideas about poverty and what should be done about it. The film also highlighted the importance of the role of youth activists in Philadelphia and the connection of youth to the history of activism.

As these examples demonstrate, by using the three strategies of the Public Dialogue Initiative, CRPI has been able to create a mechanism for supporting the public's effort to build a sense of common, shared and complementary values that can serve to build a more cohesive public voice in the United States.

The Community Technology Study Group

Through PDI, CRPI demonstrated the potential of technology to provide opportunities for the public to engage in public dialogue. However, as the link between technology and democratic participation increases, a concerted effort needs to be made to ensure that people of color and the underserved communities are afforded the knowledge, opportunities and resources necessary to ascertain their political participation in an increasingly technological society. In an effort to model one process for attending to this issue, CRPI invited Boston-based African-American, Hispanic and Asian-American community leaders, media professionals, public officials, and university professors to learn about and craft a response to the promises and problems the emerging information superhighway presents for urban and minority communities. Referred to as the Community Technology Study Group (CTSG), these individuals, one of whom is an elected official, head community-based organizations such as The Boston Foundation, YWCA, Inquilinos Boricuas en Accion, and Boys and Girls Club, and represented media like *The Boston Globe* and WCVB. With the assistance of Mitch Kapor, MIT professor and co-founder of The Electronic Frontier, CTSG members

were provided hands-on experience in navigating the Internet and in using the Internet to support community work. In addition, members were introduced to the broad range of policy issues that continue to shape the use of and access to the information superhighway.

What the CTSG has demonstrated is that, while Massachusetts is often referred to as the "high tech state," the knowledge and resources associated with that title have not made their way into the day-to-day workings of minority communities. As a result, the more information originated on the Internet, the more the minority community could be left out of access to the information needed to make informed decisions. In short, the information superhighway is becoming the new "back room" of American politics. Since completing its initial six meetings, the CTSG has continued to meet and craft a strategy for helping Boston's minority communities address this issue. The first step into the process has been to broaden the group to include key individuals from other community organizations.

There are many ways that people can participate in the democratic process. CRPI has started to provide opportunities for public voice to be created and heard, and for community leaders to learn about the information superhighway so they can formulate policy issues that affect their constituencies. The last project CRPI will be undertaking, The National Identity Project, marries two salient ideas of the previous projects.

The National Identity Project

One of the major issues confronting the viability of our democratic society is our ability to create an inclusive national identity. The historical lessons of the American struggle for identity and the maintenance of democracy has much to offer as we confront the contemporary issues of who we are, albeit shifting demographics. Through a series of conversations within the Greater Boston area, CRPI will work with various local and national organizations to explore the relationship between American identity and the social contract—values and agreements that serve as the "glue" to bind individuals to each other, to their communities, and to their country.

At the core of this exploration is the creative use of the World Wide Web to produce a national mosaic of American identity that will frame a series of conversations within the Greater Boston area. These conversations will be facilitated by CRPI staff. Through this project CRPI will provide instruction and technical assistance enabling communities and individuals to create multimedia profiles of their individual, as well as community identity. Each of these individual and community profiles will be linked electronically on the World Wide Web creating a national electronic quilt of American identity. For instance, the personal home page created by an African-American woman with her autobiography, a description of her sense of self, and her aspirations for her community and the country, may be linked to an Asian-American man's home page where he may talk about his family tree, the problems he and his family encountered upon arrival to the United States, and his own assessment of racial diversity in this country.

This electronic quilt, or series of personal identity profiles, will serve as a living example of our perceptions of American identity and will provide a tool for teaching and learning about the diversity inherent in the concept of American identity. Through the similarities and differences in these individual and collective histories and experiences, the electronic quilt will provide an opportunity for students, teachers, community members and others using the WWW to develop a sense of connectedness and belonging. This electronic quilt will continue to grow as more and more home pages on identity are created.

As we enter the 21st century, the vast diversity of our nation and the enormous changes that technology has on the ways in which we communicate make the work of democracy increasingly complex and difficult. The challenge for communities of color, the economically disadvantaged, and people least served by our society is not to minimize the mess of democracy, but to make certain they are active players in the process of making democracy work. Through the Public Dialogue Initiative, The Community Technology Study Group, The National Identity Project, and other efforts, CRPI seeks to demonstrate that diversity and technological innovation are not challenges to the viability of democracy, but rather opportunities that can serve to build a more open and expansive democracy in the United States.

Note

[1]William Outhwaite and Tom Bottomore. *The Blackwell Dictionary of Twentieth Century Social Thought.* (Oxford: Basil Blackwell, 1993).

Ceasar L. McDowell is president of The Civil Rights Project, Inc. and an assistant professor at the Harvard University Graduate School of Education.

Marianne S. Castano is program officer at The Civil Rights Project, Inc. and a doctoral student at the Harvard University Graduate School of Education's Human Development and Psychology program, specializing in technology in education.

Technological Revolution and the Black Studies Curriculum: A Course Proposal

by Abdul Alkalimat

A technological revolution is changing the world. The computer is fast becoming the universal tool in all aspects of work, production and communication, and innovations in bio-technology are fast transforming agriculture and health. The main impact of this technological revolution has been to restructure the economy, both the centers of accumulation as well as the labor process. It is also restructuring the methods by which people communicate, form and maintain communities. In general, the objective basis of social life is being fundamentally changed.

In this context, Black people are experiencing the most far reaching process of "last hired, first fired" since the end of World War II. Now this covers not only employment, but a rapid decrease in welfare programs as well as a corresponding increase in police and prisons. These far reaching changes are the content of the current congressional restructuring of public policy. Any plans being developed for Black liberation need to take this ominous motion toward a new society into consideration.

Historically, a paradigm for Black liberation has been developed and transformed in the successive contexts of slavery, rural tenancy, and urban industrial society. In the form of civil rights objectives to democratize industrial society, this paradigm united Black leadership from all walks of life, from the church to the classroom, from policy formulation to educational planning. In this way an industrial model has been the framework for curriculum development beginning in the 1890's with the second Morril Act that established Black Land Grant Institutions.[1]

A precondition for changing our paradigm for Black liberation is an intellectual program of study on the nature of this technological revolution and its impact on society, especially the Black community. In other words, Black Studies is being called upon to make a new contribution to the policy debate by preparing a new generation to continue the radical Black tradition into the 21st century. This is a transitional program toward the full articulation of a new paradigm for curriculum development.

Black Studies began in the 1960's with a focus on a critique of the present society and its racist exploitation of the Black community. A second phase has been driven by an Afrocentric perspective, utilizing ancient Africa as the source for a new foundation of intellectual, social and moral life. This new transitional program points us in the direction of the future, and seeks to fashion curriculum around the conditions in which Black people will be living in the 21st century.[2] This is also a move from the particular to the universal, from the Black experience to a set of universal conditions facing everyone, including Black people.

This essay proposes a basic course that not only focuses on the technological revolution, but should be conducted in such a way that students become part of it. This means that the course will require the use of computers and be coordinated on the Internet utilizing listserv discussions and a course Web site.

Course Content

The general focus of this course is that we are going through a revolution, a fundamental change, not just a change in attitudes or opinions. In this sense, in the 1960's we wanted a revolution but did not get one. We got reforms and great attitudinal swings. In the 1990's we have a revolution and have yet to figure out what to do about it.

The changes we face today are objective. Our response today cannot merely be driven by the ideological positions of Malcolm X, the Black Panther Party, or the League of Revolutionary Black Workers.[3] Today, to accept the challenge of the times we live in requires a revolutionary response to the same objective forces underlying the political direction linking Barry Goldwater to Ronald Reagan to Newt Gingrich. This is not merely a rhetorical revolution, but one actually taking place.

In March 1995 we organized a conference with the theme, "Technology, Employment, and Community," at the University of Illinois. In October 1995 we published the proceedings of that conference, which serves as the anchor for the course being proposed here. The basic idea is that social policy for Black liberation needs to be developed in the unfolding historical context and not based on the retention of a model of society that no longer exists.[4] Therefore, the technological revolution and its

impact on society is the basis for our new course of study and the subsequent formulation of social policy relevant to the 21st century.

There are five revolutionary processes of change that we will focus on in this course. Each of these processes are related, but primary focus will be given to the technological and economic changes as they are the universal changes confronting everyone in the U.S. and, directly or indirectly, everyone in the world. Further, these are the changes that enable us to develop a coherent framework for the social, political and spiritual changes we are experiencing.

1. The technological revolution: Alvin and Heidi Toffler argue that there have been three basic revolutions in human society which they conceptualize as successive waves of change. The first wave is the agricultural revolution; the second wave is the industrial revolution; and, the current third wave is an information age revolution. Black people in the U.S. have been fully within the industrial sector since the end of sharecropping, while Black people in Africa and the Caribbean are still in the transition to industrial society.

2. The main economic impact of this transition into the third wave is a dramatic marginalization of Black labor. Jeremy Rifkin describes this process with great clarity. This began for Black people as early as the mid-1950's when automation began to restructure manufacturing. From 1953 to 1962 there were 1.6 million manufacturing jobs lost, and Black unemployment went from a previous high of 8.5% up to 12.4%. Since then, Black unemployment has been twice that of whites. Tom Khan correctly captured the basis of this trend: "It is as if racism, having put the Negro in his economic place, stepped aside to watch technology destroy that place."[5]

This is not merely a rhetorical revolution, but one actually taking place.

The pattern is clear when we examine the main industries in which Black workers have been marginalized. The auto industry has been transformed, going from the assembly line production technology of Henry Ford to the lean production technology started by Toyota. The Ford River Rouge Plant in Detroit had 85,000 workers in 1945, and by the 1990's this was down to less than 15,000 workers even though the company was making more cars! U.S. Steel had 120,000 workers in 1980. Ten years later computer-based engineering allowed U.S. Steel to make more product than ever with a workforce of only 20,000.[6]

The workers being excluded from these jobs who remain active in the workforce have had to take jobs making less money, sometimes part-time or temporary, and frequently at minimum wage. For others, less success has meant unemployment, welfare, homelessness and hunger. It is estimated that nearly 20% of full time employees are making incomes of less than the poverty line. For Black workers the situation is even worse.[7]

Five Revolutionary Processes That Will Define the 21st Century

a. Technological Revolution: The transformation of tools and techniques based on the computer and biotechnology;

b. Economic Revolution: The transformation of the workplace, and the resultant economic polarization toward the extremes of wealth and poverty, from the wealthy to the homeless;

c. Social Revolution: The destruction of public institutions connected to industrial society, the privatization of social life, and the polarization of social environments from gilded high-tech suburbs to inner-city forbidden zones;

d. Political Revolution: The destruction of the welfare state and an emerging struggle between conservatism and the creation of a police state versus revolution and the expansion of economic security and democratic rights; and,

e. Spiritual Revolution: The end of the old American dream and the emerging battle between the spirit of reaction and conservatism versus the spirit of revolution.

3. The social revolution emerges out of this economic transformation, and begins with the destruction of society. This is a very different interpretation than what usually confronts most Black people. Usually this destruction is viewed as someone's fault: "Why are you people tearing up your community?" However, it is not the aberrant behavior of "uncivilized" people causing this first stage of the social revolution. This destruction of society is an inevitable result of an economic revolution. The schools do not work because they were built on the school-to-work model that does not function anymore. The hospitals do not work because they were established to keep employed workers healthy who are now being increasingly marginalized. This same pattern is found for virtually every public institution.

4. The political revolution is on the front pages of the daily newspapers, at least the part of it being driven by the right wing forces who have taken over Congress. These forces are rewriting the social contract so that the capitalists do not have to pay to maintain people they no longer need as labor. While Black people have consistently given the Democrat party their electoral loyalty, the main impulse has been to elect Black officials, expanding Black Congressional representation to 40, recent successes for the Senate, state-wide offices, and a couple of serious bids for the presidency.

5. The spiritual revolution is one of emotional well being, and general social belonging in society, as well as one's psychological comfort level with the future. The Million Man March (October 16, 1995) was a declaration that a spiritual revolution was necessary in order for the Black community to rediscover a positive self-image and sense of worth. More importantly, the Black church remains a viable institution that speaks to the spiritual needs of the community and serves them in a culturally effective manner. The Civil Rights Movement captured the spirit of the people because it was morally righteous and the leadership, willing to sacrifice, had been educated, organized and canonized. This is what must be done all over again.[8]

These five points of discussion serve as the content for the new course. The driving theme is how the technological revolution serves as the context for the other processes of change (though not in a simplistic model of technological determinism). The argument is quite simple and straightforward: the world is changing and everything in it. Black people's lives, as with everyone else, will have to change in this world. Only by fully understanding the logic and contours of these changes can a new paradigm for Black liberation and human freedom be designed and implemented. This new course is a proposal to get this project underway.

Notes

[1]Jim Wallis, *The Soul of Politics*. (New York: The New Press, 1994).

[2]Paul Kennedy, *Preparing for the Twenty-first Century*. (New York: Random House, 1993). See also Alvin Toffler, *Power Shift: Knowledge, Wealth and Violence at the Edge of the 21st Century*. (New York: Bantam Books, 1990).

[3]Nelson Peery, *Entering An Epoch of Social Revolution*. (Chicago: Workers Press, 1993).

[4]Abdul Alkalimat, Doug Gills, and Kate Williams (Eds.), *JOB?TECH: The Technological Revolution and Its Impact on Society*. (Chicago: Twenty-first Century Books, 1995). See also Stanley Aronwitz and William DiFazio, *The Jobless Future: Sci-Tech and the Dogma of Work*. (Minneapolis: University of Minnesota Press, 1994).

[5]Jeremy Rifkin, *The End of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era*. (New York: Putnam, 1995).

[6]Richard Barnet and John Cavanaugh, *Global Dreams: Imperial Corporations and the New World Order*. (New York: Simon and Schuster, 1994).

[7]James Jennings, *Understanding the Nature of Poverty in Urban America*. (Westport, Connecticut: Praeger, 1994).

[8]James Cone, *For My People: Black Theology and the Black Church*. (Mary Knoll, New York: Orbis Press, 1984).

Abdul Alkalimat, an owner-editor of Twenty-first Century Books and Publications in Chicago, is also the author of *Introduction to Afro-American Studies: A People's College Primer*. He will be coordinating the aforementioned course at Northeastern University for the academic year 1996-97.

Politics and the Information Superhighway

by The Honorable Congressman Bobby L. Rush (D–IL)

The following statement was delivered on 24 May 1995 by the Congressman in support of the markup of The Communications Act of 1995:

Thank you, Mr. Chairman. I want to start today by commending you and the ranking minority member, Mr. Dingell, for providing this committee with the legislative groundwork for the information revolution which the telecommunications industry is well on its way to embracing. We are engaged in this effort in order to ensure that ALL Americans receive the benefits that modern technology has to offer.

As I indicated in my opening statements before the subcommittee on Telecommunication and Finance, I am proud to be a part of this legislative effort because I represent a part of the nation where many of the most progressive telecommunication companies serve my constituents. I also want to make very clear my concern that all players, large and small, entrepreneurs and corporations, women and men, be granted equal footing to provide telecommunications services and subcontracting needs in the new competitive marketplace we are embarking toward.

I join my friend my New York, Mr. Towns, in offering an amendment that will ensure that the concerns I have expressed will be addressed in a proceeding by the FCC. This amendment will grant the FCC authority to identify and eliminate market barriers for entrepreneurs and other small businesses in the provision and ownership of telecommunications services, including information services or in the provision of parts or services to providers of telecommunications and information services.

I want to raise two other points for the record. First, I see a bit of irony in the fact, although most schools have telephone service, that service rarely extends past the principal's office. According to a May 12, 1995 letter sent to the Chairman of this subcommittee, Mr. Fields, by FCC Chairman Reed Hundt, 88% of the nation's classrooms are without a phone line and 97% are not connected to any computer network. In other words, we are legislating for competition in the telecommunications marketplace and yet the majority of our children are not even exposed to learning the practical uses these services have to offer. I offer a challenge to the telecommunications industry to impose a self-regulated mandate to provide our nation's schools with the necessary infrastructure, computers and programming to ensure that there is a pool of technology-literate consumers who can benefit from the competitive marketplace that the industry is asking Congress to legislate.

Second, I want to express my concern over the loss of the FCC's Tax Certificate Policy. The Commission's Tax Certificate Policy has been instrumental in substantially increasing the number of broadcast licenses owned by minorities. According to testimony by William Kennard, the FCC's General Counsel, given to the Senate Committee on Finance in March of this year, the number of broadcast licenses owned by minorities has increased more than eight-fold since 1978 and during the 17-year history of the Commission's Tax Certificate Program. The lack of access to capital was identified by the Commission in 1981 as the biggest obstacle to ownership. Clearly, the Tax Certificate Program is the reason for the gains we have seen until recently.

I wanted to express my concerns for the record on this issue and express my strong hope that we are not witnesses to a new policy trend. It was impossible to not notice that, out of all the 49 witnesses who offered testimony during the hearings held by the Telecommunication and Finance subcommittee, only one was African-American, the Honorable Larry Irving, Assistant Secretary of Commerce…a public servant.

An Interview with E. David Ellington, President of NetNoir, Inc.

by Harold W. Horton, Jr.

E. David Ellington

Harold W. Horton, Jr.

Harold W. Horton: Mr. Ellington, sincere thanks for granting us the opportunity to conduct this interview with you on such a crucial issue and especially with reference to its relevance to communities of color.

Would you please begin by giving some background information on the original development of NetNoir, Inc.

E. David Ellington: About two years ago I met my partner and co-founder, Malcolm CaSelle. He was working on his master's in computer science at Stanford University and I was still practicing entertainment law in Los Angeles. He mentioned some of the things he was working on in new media, which got my curiosity going; and eventually I presented him with the idea of developing a Black online service. At first he didn't think it was feasible because of all the infrastructure involvement and costs, but I eventually convinced him that there could be a whole new market that we should try to fill. So I drafted the first overview basically describing what my vision of what NetNoir would be and in the Summer of 1994 I submitted it to him and some other friends for feedback. Once we put together a business plan, we submitted it to America On-Line's "Green House Program," which was looking for new ideas and concepts. The "Green House Program" agreed to take a minority stake by giving some capital and providing distribution to a company that came up with interesting ideas.

NetNoir, Inc. is dedicated to digitizing, archiving, and distributing global Afrocentric content. NetNoir is the first vehicle to create elements of Afrocentric culture that appeal to a cross-section of people and help bring that culture into the next century. NetNoir, Inc. and its services are dedicated to providing a safe community where people can explore, exchange ideas, and learn about one another and technology.

HWH: We noticed that NetNoir's founders, all of whom are African American, have a wide array of professional experience. How has this wealth of talent and knowledge impacted the development of your company as well as your product?

EDE: Yes, we're very fortunate. The fact that I was a practicing lawyer I think has helped a great deal in terms of negotiating and cutting deals. What's also been important is that fact that I came from an entertainment law background which allowed me to recognize this business opportunity. I knew that considering how much influence African culture has had and how popular it can be, whether it's in the area of music or sports, that there would definitely be some cross-over appeal.

The fact that Malcolm, the co-founder at NetNoir, has both an undergraduate and master's degree in computer science helped to develop our infrastructure because this is clearly a high-tech driven area. He had a brief stint in publishing, as well, but it was more his technology base which gave us a great source of support and skill set.

Greg Mays is a CPA and serves as vice president of finance and chief financial officer of NetNoir, Inc. He worked at Coopers and Lybrand for a while and received his MBA at Harvard. Having that kind of person on board to do our number crunching for us is, of course, strategic.

Lastly, Marcelino Ford-Livene is our vice president of business affairs. It was ideal to have someone who is a licensed attorney come in and handle some of those contracts for us, as well as negotiate them. Marcelino also serves as the head of personnel. We're very fortunate to pull together a great group of individuals. I know all of them personally, and assisted in bringing them together.

HWH: How is NetNoir, Inc. governed and what is the general operating cost? And if you care to, please mention some of your financial contributors.

EDE: NetNoir, Inc. is governed by the four key individuals mentioned above that helped to create this company.

America On-line has a minority stake in our company, which is less than 20%, and the rest is divided up among the founders. We also have another investor, located in New York City, that made a minority investment in our company. However, the single largest shareholders are Malcolm and myself.

HWH: Since the company's inception in January 1995, how would you assess your company's performance to date? Are company sales in line with initial projections?

EDE: We incorporated in January 1995 and launched the service on June 19, 1995, in celebration of Juneteenth, a historic day in Black American history. We are very excited that our performance has been outstanding. We are fortunate to be one of the more popular sites on America On-Line. Because we are a programming service based on a revenue model, we work to come up with content that will appeal to seven or eight different demographic groups. We haven't gotten all the programming that we want just yet, but we're well on our way. So yes, we are in line with our initial projections.

HWH: NetNoir, Inc. has created two divisions (NetNoir New Media Consulting and NetNoir Online) to deliver its services. Can you discuss the role of these divisions and the primary services they provide to consumers? Are you planning to expand your services?

EDE: NetNoir Media services is our consulting arm where we help people to digitize and archive; these are the first two components of the corporate parent's mission. Digitizing means we help convert information content into digital form. The second part is archiving, which means creating a database, not just any database, but a navigable one. For example, someone who wants to pull up all the written articles about Muhammad Ali from 1964 to 1968, can put in the request and, all of a sudden, six articles pop up; this is a navigable database. We are in that business clearly because of Malcolm's expertise. We're able to develop some data management tools and organize them for people who need those services.

The final component which is distribution, is done by NetNoir Online. This is an area on America On-Line, as well as the World Wide Web (WWW). We have our own Web site at (http://www.netnoir.com). The site on America On-Line will allow one to basically provide information in cyberspace. It's kind of like a turn key solution because many times third party content providers haven't digitized their stuff or archived it; and once they do all that they want to figure out is what to do next. Well, you can distribute it, now that it's in a digital format, through NetNoir Online. Also, you can develop your own Web site and distribute it.

Each one of those services are provided to the public and both are going to be expanded. For the expansion of NetNoir Online we're going to be launching brand new Web sites with all the bells and whistles, which will take place in February 1996. On the NetNoir New Media Services side, expansion will take place in terms of more consulting and Web site design, as well as helping people to manage their own content as we get into the next information revolution.

HWH: You have referred to NetNoir as a "cross-over" company that is striving to market services to anyone from different walks of life that has an interest in Afrocentric culture. Can you elaborate on how NetNoir is marketing this concept to consumers?

EDE: We develop programming and present our content in such a way that it has a cross-over appeal. We're not just targeting African Americans for several reasons: 1) NetNoir OnLine is global in scope to include Afro Caribbean, Afro Latin, Afro European, Continent African, as well as African American cultures in its services; and, 2) We encourage people of different backgrounds to come in as long as someone shares an interest or is intrigued by Afrocentric culture. They're more than welcome to participate in NetNoir OnLine. Clearly, with so few people of African descent on line throughout the world, there is no business model that would support a service that was completely targeted to African Americans. At least we don't believe there is a business model that exists at this point. But we're also encouraging those people not of African descent who are interested. I firmly believe that the business model of the twenty-first century is about inclusion and not exclusion. So, if that is the company's mission and part of its goal, then clearly we have to do that. For example, we have a host of different writers of European descent, Asian descent, and Latin descent, who want to write about Afrocentric content. And we encourage them to do that. That's not always the case in other publications or other kinds of services. That's how we try to achieve our cross-over nature.

HWH: At the present moment who are NetNoir's primary consumers? What services are they requesting?

EDE: NetNoir's primary consumers are people of African descent (60%-65%) and about a third are other ethnic or racial groups. In terms of gender, it's my understanding, that seventy percent are male and thirty percent female.

The most popular area is the music department. That channel has created a lot of activity. Of course, Carl Lewis, who writes for us in our sports department, has a very popular column. In the areas of education we offer popular classes online. Our business seminars are usually hosted by famous people providing their services for free. Actually it's been going pretty well for all of our departments, the same with business.

HWH: While the consumer online industry has exploded in the United States, the U.S. Department of Commerce reports that in 1994, only 11.1% of Black households had computers compared to 28.6% for white households. What are the ramifications for the African American community?

EDE: This statistic doesn't interest me at all for the very fact that 99% of white America is not on line either. This is the beginning of an industry. In about a year, this industry has really gotten hot. So clearly, this has not been a priority for most people on earth. Whether or not Blacks have computers in their homes, at this point, really doesn't concern me. We're creating a brand name and we're first to market it and that's more important to us for the long term. This is not a service that we're building; it's a company. Therefore, we plan to stay around for a

while. Most people are not on line which explains why we built a cross-over service.

HWH: What can be done by public schools, higher education institutions, businesses, community organizations, churches, etc. to ensure that the African American community has proper access to fully participate in this technological revolution? Is NetNoir pursuing any special strategies to reach out to the African American community?

EDE: NetNoir supports a concept, we call, the cultural imperative. The cultural imperative is where we believe that we are creating the software which will help drive the purchase of hardware. This means people who haven't traditionally been online may be motivated to actually go out and purchase a PC (with a modem) and want to get online because of this thing called NetNoir they've heard about. So we are developing and negotiating with different organizations. We know there was a grant submitted by a group representing Howard University's School of Divinity to the National Telecommunications Information Administration (NIA). About thirty churches around the country, with the largest congregations, are part of Howard University's network of churches that have been turning out preachers for many, many years. This grant would put computers in the basements of community centers and churches to allow seniors and young people the ability to surf the Web, as well as any online service. So, they're looking to NetNoir to be the software that will motivate them and be used as a teaching tool to expose folks to what goes on the Web through our Web site, like the one on America On-Line.

HWH: Your venture with NetNoir, Inc. has brought much needed attention to the fact that the information superhighway with its vast and seemingly endless volume of libraries and databases has a deficient supply of resources pertaining to African American culture. What can the industry do to foster more diversity on the information superhighway?

EDE: I don't think we can rely on the industry. It's like kind of relying on affirmative action. I think it's clear that affirmative action is on its way out much to my chagrin. I really want Black folks to not be dependent on government services at all and to be completely private-oriented, like other ethnic groups in this country. America On-Line did not invest in NetNoir because they thought it was a philanthropic idea. They liked our business plan, they saw a potential market, they saw the market share that they could get, and the value of investing in a Black company.

I see us, people of African descent, actually getting motivated and pulling capital together and financing different projects. I think there are entities out there that may be able to step to the Ford Foundation, the Rockefeller Foundation, or the Chrysler Foundation for funding. This makes good educational sense since so much is going on in terms of educational institutions having access to the Internet and the Web. So, I don't see this industry, the private side of this industry, doing anything. I do see the public side, in terms of philanthropic organizations, coming up with some grant money for certain entities, especially educational institutions.

HWH: How will the African American community benefit with a more diverse information superhighway? How will this benefit others in society?

EDE: I think the more important thing is for the latter part of your question: How will this benefit others. I mean clearly we're in a position now, to tell our point of view and our interpretation of events, historical events, as well as our interpretation of current and future events, instead of going through some kind of a filter created by other people. I think that's phenomenal. I think that's why the Internet represents such a threat to a host of "powers that be." That's why it's really quite interesting. There are huge entities that want to see this medium blow up and then there are others that want this medium to go away. And I think ultimately this medium is going to win because it's so free wheeling; and then there will be a full blown information revolution.

The issue is who's going to get it? How will people know that your side exists with your perception or your point of view? So you have to develop strategic relationships so people can send people to you. Otherwise it's like screaming in the middle of the forest. There's no one there to hear you; so are you really screaming? There's going to be more and more sites out there and people trafficking those sites and I think, clearly, showing this alternative, will enhance society a lot better. People will be able to make a more informed decision especially about policy issues that are much bigger and important. So now, all of a sudden, these little incremental arguments pop up and those incremental arguments can then be able to persuade policy that's going to affect us all.

E. David Ellington is co-founder and president of NetNoir, Inc. in San Francisco, CA.

Harold W. Horton, Jr. is assistant dean for academic affairs and registrar at Franklin University, where he also serves as an adjunct professor in the political science department.

Harold W. Horton, Sr. contributed to this interview. He is the associate director of The Trotter Institute and director of Program to Encourage Minority Students to Enter the Teaching Profession. Dr. Horton also teaches in the doctorate program of the Graduate College of Education at UMass Boston.

Selected Trotter Institute Publications and Conference Proceedings

Business and Economic Development

An Overview of Minority-Owned Businesses in the Boston Metropolitan Area (1987),
Russell Williams and Sue Kim, 62 pp., 1995, $5.00

The Competitive Advantage of the Inner City: Does Race Matter?,
Occasional Paper No. 33
Philip S. Hart, 20 pp., 1995, $3.00

Missing Links in the Study of Puerto Rican Poverty in the United States,
Occasional Paper No. 30
James Jennings, 21 pp., 1995, $3.00

An Historical Overview of Poverty Among Blacks in Boston: 1850-1990,
Occasional Paper No. 24
Robert C. Hayden, 17 pp., 1994, $2.00

Conference Proceedings

Proceedings of Black Agenda Convention VI,
Edited by Leslie Bowen and Gemima Remy, 30 pp., 1995, $3.00

Proceedings of Black Agenda Convention IV,
Edited by George Cox and James Jennings, 30 pp., 1992, $3.00

Proceedings of Black Agenda Convention III,
Edited by Ricardo Guthrie and James Jennings, 20 pp., 1992, $3.00

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